DAIKIN

EEDEN09-741

technical data

refrigeration

LRMEQ-AY1
LRLEQ-AY1

R-410A

DAIKIN

EEDEN09-741

technical data

refrigeration

LRMEQ-AY1
LRLEQ-AY1

R-410A

ZEAS refrigeration condensing units

I Outdoor units

1 LRMEQ-AY1 ..... 3 1

2 LRLEQ-AY1 ..... 31 2

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LRMEQ-AY1

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1 Features

- Medium temperature applications: 12.2~37.0 kW
- DC inverter controlled scroll compressors open the door to VRV technology for commercial refrigeration
- System solution for multi-compressor refrigeration systems
- R-410A refrigerant
- Very compact with small footprint and easy to install
- High energy efficiency and performance with DC inverter compressor
- Reliable factory tested packaged solution

2 Specifications

2-1 Electrical Specifications			LRMEQ5AY1	LRMEQ6AY1	LRMEQ8AY1	LRMEQ10AY1	LRMEQ12AY1	LRMEQ15AY1	LRMEQ20AY1
Power supply	Phase		3						
	Frequency	Hz	50						
	Voltage	V	380-415						

2-2 Technical Specifications				LRMEQ5AY1	LRMEQ6AY1	LRMEQ8AY1	LRMEQ10AY1	LRMEQ12AY1	LRMEQ15AY1	LRMEQ20AY1
Operating condition	Evaporating temperature	Min	°C	-20	-20	-20	-20	-20	-20	-20
		Max	°C	10	10	10	10	10	10	10
	Outdoor temperature	Min	°C	-15	-15	-15	-15	-15	-15	-15
		Max	°C	43	43	43	43	43	43	43
Cooling capacity	Nom.		kW	12.2	14.4	18.6	21.8	24.4	32.2	37.0
Casing	Colour			Ivory white (5Y7,5/1)						
Dimensions	Unit	Height	mm	1,680						
		Width	mm	635	635	930	930	930	1,240	1,240
		Depth	mm	765	765	765	765	765	765	765
Heat exchanger	Type			Cross fin coil						
Compressor	Type			Hermetically sealed scroll type						
	Piston displacement		m³/h	10.04	13.85	19.68	23.36	25.27	30	35.8
	Speed		rpm	4,740	6,540	4,320	6,060	6,960	5,640	6,960
			rpm			2,900	2,900	2,900	2,900	2,900
			rpm						2,900	2,900
	Motor	Output	kW	2.3	3.2	2.1	3.0	3.4	2.8	3.4
		Output	kW			3.6	3.6	3.6	3.6	3.6
		Output	kW						3.6	3.6
	Starting Method			Direct on line (inverter driven)						
Fan	Type			Propeller						
	Motor	Output motor	kW	0.35	0.35	0.75	0.75	0.75	0.75	0.75
		Output motor	kW						0.75	0.75
	Air flow rate		m³/min	95	102	171	179	191	230	240
	Drive			Direct drive						
Piping connections	Liquid (OD)	50m or less		Ø 9.5 C1220T (Brazing connection)					Ø 12.7 C1220T (Brazing connection)	
		50~130m		Ø 12.7 C1220T (Brazing connection)					Ø 15.9 C1220T (Brazing connection)	
	Gas	50m or less		Ø 19.1 C1220T (Brazing connection)		Ø 25.4 C1220T (Brazing connection)			Ø 31.8 C1220T (Brazing connection)	
		50~130m		Ø 22.2 C1220T (Brazing connection)		Ø 28.6 C1220T (Brazing connection)			Ø 34.9 C1220T (Brazing connection)	
Weight	Unit		kg	170	170	255	255	255	355	355
Safety Devices				High pressure switch						
				Fan driver overload protector						
				Overcurrent relay						
				Inverter overload protector						
				Fusible plug						
Refrigerant	Name			R-410A						
	Charge volume		kg	5.2	5.2	7.9	7.9	7.9	11.5	11.5
	Control			Expansion valve (electronic type)						
Refrigerant Oil	Name			Daphne FVC68D						
	Charged Volume		l	1.7	1.7	1.7	1.7	1.7	1.7	1.7
			l	2.5	2.5	2.1	2.1	2.1	2.1	2.1
			l			3.0	3.0	3.0	2.1	2.1
			l						4.0	4.0
Standard accessories				Installation manual						
				Operation manual						
				Connection pipes						
				Clamps						
				Wiring materials						
				Caution label						
				Declaration of Conformity						
				Refrigerant label for F-gas regulation						
Notes				Nominal cooling capacities are based on: operating conditions of outside unit: Te= -10°C; outdoor temperature 32°C; Suction SH10°C						

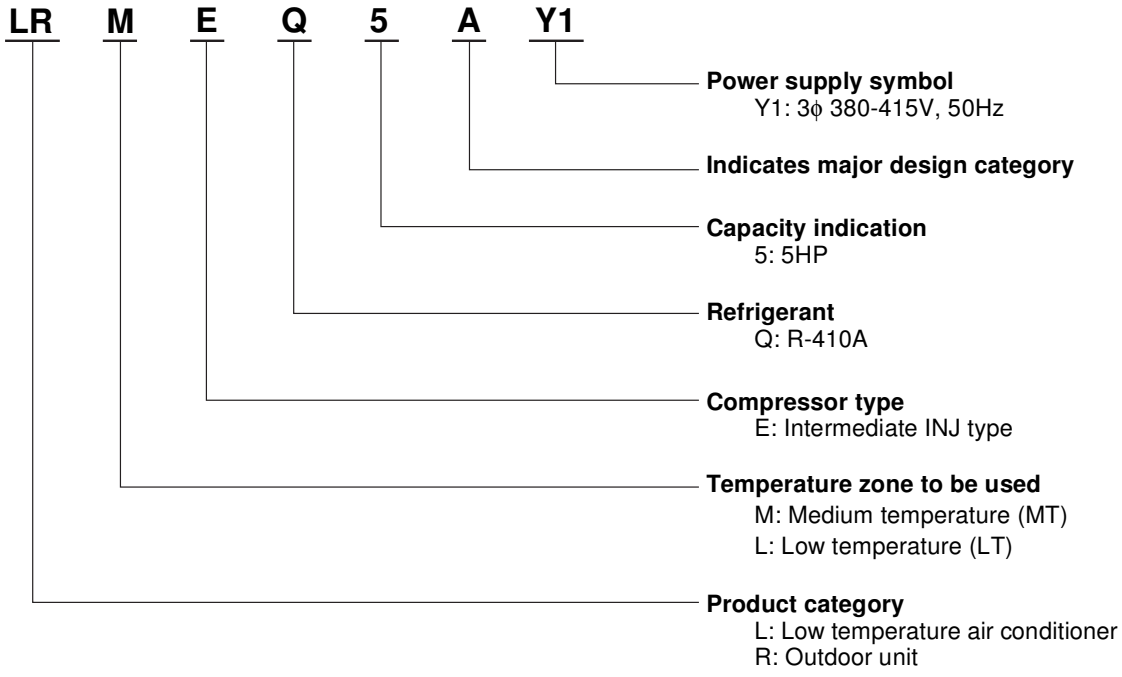
2 Specifications

2-3 Electrical Specifications			LRMEQ5AY1	LRMEQ6AY1	LRMEQ8AY1	LRMEQ10AY1	LRMEQ12AY1	LRMEQ15AY1	LRMEQ20AY1
Current - 50Hz	Maximum starting current (MSC)		-	-	74	75	75	84	84
	Rated load amps (RLA)		7.0	8.9	5.2+6.8	7.5+6.9	9.5+7.7	7.4+7.1+7.1	10.2+7.8+7.8
	Minimum Ssc value	kVa	EN61000-3-2: professional equipment		652	896	1,093	757	941
	Minimum circuit amps (MCA)	A	12.7	13.6	19.2	21.9	23.9	31.2	34.8
	Maximum fuse amps (MFA)	A	15	15	25	25	25	40	40
	Total overcurrent amps (TOCA)	A	15.6	15.6	31.5	31.5	31.5	48.3	48.3
	Full load amps (FLA)	A	0.4	0.4	0.9	0.9	0.9	0.7	0.7
		A						0.7	0.7
Current	Z max		Equipment complying with EN61000-3-3		0.27	0.27	0.27	0.24	0.24
Voltage range	Max	V	456	456	456	456	456	456	456
	Min	V	342	342	342	342	342	342	342
Notes			RLA is based on following conditions: outdoor temperature 32°CDB; suction SH 10°C; saturated temperature equivalent to suction pressure -10°C						
			TOCA means the total value of each OC set						
			MSC means maximum current during start-up of compressor						
			Voltage range : units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.						
			Maximum allowable voltage range variation between phases is 2%.						
			Select wire size based on the larger value of MCA or TOCA						
			MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker)						

3 Nomenclature

Nomenclature

■ Outdoor unit

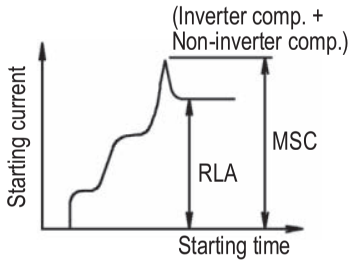


LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5,6,8,10,12,15,20AY1(E)

Model name	Units				Power supply			Comp.		OFM		Minimum Ssc value (kVA)	Z max (Ω)
	Hz	Volts	Min.	Max.	MCA	TOCA	MFA	MSC	RLA	kW	FLA		
LRMEQ5AY1(E)	50	380	342	456	12.7	15.6	15	—	7.4	0.35	0.4	EN61000-3-2: professional equipment	Equipment complying with EN61000-3-3
		400						—	7.0				
		415						—	6.8				
LRMEQ6AY1(E)	50	380	342	456	13.6	15.6	15	—	9.4	0.35	0.4	EN61000-3-2: professional equipment	Equipment complying with EN61000-3-3
		400						—	8.9				
		415						—	8.6				
LRMEQ8AY1(E)	50	380	342	456	19.2	31.5	25	78	5.5+7.2	0.75	0.9	652	0.27
		400						74	5.2+6.8				
		415						72	5.1+6.7				
LRMEQ10AY1(E)	50	380	342	456	21.9	31.5	25	79	7.9+7.3	0.75	0.9	896	0.27
		400						75	7.5+6.9				
		415						73	7.3+6.7				
LRMEQ12AY1(E)	50	380	342	456	23.9	31.5	25	79	10.0+8.1	0.75	0.9	1093	0.27
		400						75	9.5+7.7				
		415						73	9.3+7.4				
LRMEQ15AY1(E)	50	380	342	456	31.2	48.3	40	89	7.7+7.5x2	0.75x2	0.7x2	757	0.24
		400						84	7.4+7.1x2				
		415						81	7.0+6.9x2				
LRMEQ20AY1(E)	50	380	342	456	34.8	48.3	40	89	10.7+8.3x2	0.75x2	0.7x2	941	0.24
		400						84	10.2+7.8x2				
		415						81	9.8+7.6x2				
LRLEQ5AY1(E)	50	380	342	456	12.7	15.6	15	—	6.7	0.35	0.4	EN61000-3-2: professional equipment	Equipment complying with EN61000-3-3
		400						—	6.4				
		415						—	6.2				
LRLEQ6AY1(E)	50	380	342	456	13.6	15.6	15	—	8.4	0.35	0.4	EN61000-3-2: professional equipment	Equipment complying with EN61000-3-3
		400						—	8.0				
		415						—	7.7				
LRLEQ8AY1(E)	50	380	342	456	19.2	31.5	25	78	4.9+6.4	0.75	0.9	652	0.27
		400						74	4.6+6.1				
		415						72	4.5+5.9				
LRLEQ10AY1(E)	50	380	342	456	21.9	31.5	25	79	7.2+6.8	0.75	0.9	896	0.27
		400						75	6.9+6.4				
		415						73	6.7+6.2				
LRLEQ12AY1(E)	50	380	342	456	23.9	31.5	25	79	8.1+6.6	0.75	0.9	1093	0.27
		400						75	7.7+6.3				
		415						73	7.5+6.1				
LRLEQ15AY1(E)	50	380	342	456	31.2	48.3	40	89	6.5+6.6x2	0.75x2	0.7x2	757	0.24
		400						84	6.2+6.2x2				
		415						81	5.9+6.0x2				
LRLEQ20AY1(E)	50	380	342	456	34.8	48.3	40	89	8.3+6.6x2	0.75x2	0.7x2	941	0.24
		400						84	8.0+6.2x2				
		415						81	7.6+6.0x2				

SYMBOLS

MCA : Min. Circuit Amps. (A)
TOCA : Total Over-current Amps. (A)
MFA : Max. Fuse Amps. (A)
MSC : Max. Starting current
RLA : Rated Load Amps. (A)
OFM : Outdoor Fan Motor
FLA : Full Load Amps. (A)
kW : Rated Motor Output (kW)



The relationship between the starting time and the starting current

NOTES

1. RLA is based on the following conditions,
   - Outdoor temperature, 32°C DB
   - Suction SH, 10°C
   - Saturated temperature equivalent to suction pressure, -10°C
2. TOCA means the total value of each OC set.
3. MSC means the Max. current during the starting of compressor.
4. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.
5. Maximum allowable voltage variation between phases is 2%.
6. Select wire size based on the larger value of MCA or TOCA.
7. MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).

5 Options

LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5,6,8,10,12,15,20AY1(E)

Series	Condensing unit for refrigeration system					
Model / Option name	LRLEQ5AY1, LRMEQ5AY1 LRLEQ6AY1, LRMEQ6AY1	LRLEQ5AY1, LRMEQ5AY1 LRLEQ6AY1, LRMEQ6AY1	LRLEQ8AY1, LRMEQ8AY1 LRLEQ10AY1, LRMEQ10AY1 LRLEQ12AY1, LRMEQ12AY1	LRLEQ8AY1, LRMEQ8AY1 LRLEQ10AY1, LRMEQ10AY1 LRLEQ12AY1, LRMEQ12AY1	LRLEQ15AY1, LRMEQ15AY1 LRLEQ20AY1, LRMEQ20AY1	LRLEQ15AY1, LRMEQ15AY1 LRLEQ20AY1, LRMEQ20AY1
Central drain pan kit	KWC26C160	♦ KWC26C160E	KWC26C280	♦ KWC26C280E	KWC26C450	♦KWC26C450E

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NOTE

1. ♦ : Order products

6 Capacity tables

6 - 1 Cooling capacity tables

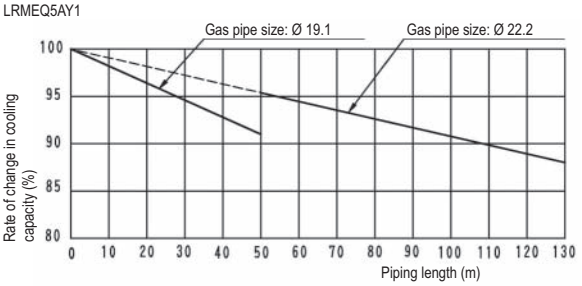
LRMEQ5-6AY1

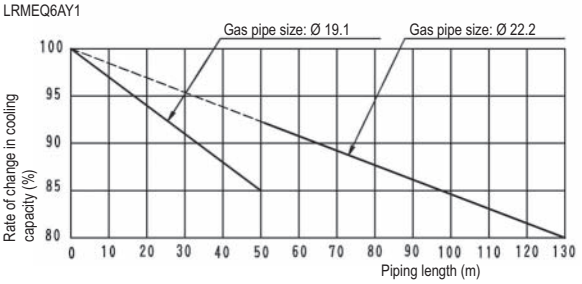
Cooling capacity table

MODEL	Amb. Temp.	Suction pressure equivalent saturation temperature °C													
		-20		-15		-10		-5		0		5		10	
		Q	W	Q	W	Q	W	Q	W	Q	W	Q	W	Q	W
	°C	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
LRMEQ5AY1	20	10.4	3.66	11.8	3.69	13.3	3.72	14.4	3.76	15.7	3.80	17.0	3.84	18.3	3.97
	27	9.74	4.26	11.1	4.32	12.5	4.39	13.7	4.46	15.0	4.55	16.2	4.64	17.5	4.82
	32	9.24	4.85	10.6	4.93	12.0	5.00	13.1	5.12	14.4	5.26	15.6	5.39	16.9	5.60
	38	8.56	5.64	9.84	5.75	11.2	5.86	12.3	6.03	13.5	6.23	14.7	6.43	16.0	6.75
	43	7.82	6.37	9.06	6.57	10.4	6.79	11.4	7.19	12.7	7.44	13.8	7.62	15.0	7.84
LRMEQ6AY1	20	12.7	4.49	14.4	4.51	16.1	4.54	17.7	4.60	19.3	4.63	20.9	4.72	22.6	4.79
	27	11.9	5.38	13.5	5.46	15.1	5.54	16.7	5.62	18.3	5.71	19.9	5.78	21.5	5.91
	32	11.2	6.05	12.8	6.17	14.4	6.30	16.0	6.44	17.6	6.60	19.2	6.75	20.7	6.99
	38	10.3	6.86	11.9	7.04	13.4	7.22	14.9	7.44	16.5	7.68	18.0	7.92	19.6	8.28
	43	9.36	7.33	10.8	7.62	12.3	7.93	13.8	8.38	14.7	8.39	15.1	8.08	15.1	7.72

Q: Cooling capacity
W: Power consumption

■ Rate of change in cooling capacity by piping length





Calculation method of cooling capacity

Cooling capacity = Reading value from cooling capacity table x Rate of change in cooling capacity by piping length

NOTES

1. ☐ is specified point.
2. The condition of characteristics of the table: 10°C (suction SH)
3. Consider decrease of capacity depended on frosting, and time of defrosting, please select larger model (about 15%).

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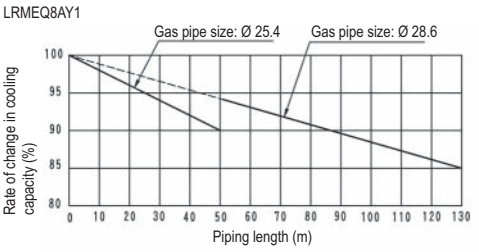
LRMEQ8-10-12AY1(E)

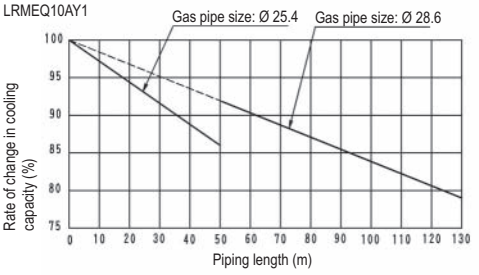
Cooling capacity table

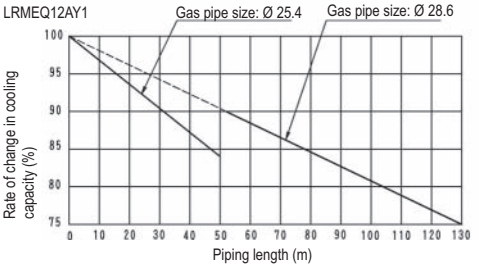
MODEL	Amb.	Suction pressure equivalent saturation temperature °C													
		-20		-15		-10		-5		0		5		10	
		Q	W	Q	W	Q	W	Q	W	Q	W	Q	W	Q	W
	°C	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
LRMEQ8AY1	20	16.3	5.91	18.5	5.96	20.7	6.00	22.9	6.08	25.0	6.12	27.1	6.17	29.3	6.23
	27	15.3	7.14	17.4	7.27	19.5	7.40	21.6	7.52	23.7	7.64	25.9	7.76	28.0	7.86
	32	14.4	8.10	16.5	8.29	18.6	8.50	20.7	8.70	22.8	8.92	24.8	9.15	26.9	9.39
	38	13.3	9.29	15.3	9.56	17.3	9.84	19.3	10.1	21.4	10.5	23.4	10.9	25.4	11.3
	43	12.0	10.6	14.0	10.9	15.9	11.4	17.9	12.1	19.9	12.6	21.9	13.0	23.8	13.2
LRMEQ10AY1	20	19.1	7.07	21.8	7.12	24.3	7.18	26.9	7.26	29.4	7.30	32.0	7.33	34.5	7.38
	27	17.9	8.46	20.4	8.62	22.9	8.78	25.4	8.93	27.9	9.07	30.4	9.20	32.9	9.32
	32	16.9	9.52	19.3	9.75	21.8	10.0	24.3	10.2	26.7	10.5	29.2	10.8	31.7	11.1
	38	15.5	10.8	17.9	11.1	20.3	11.5	22.6	11.8	25.1	12.2	27.5	12.7	29.9	13.2
	43	14.0	11.8	16.3	12.4	18.6	12.8	20.9	13.7	23.3	14.4	25.6	14.8	27.7	14.9
LRMEQ12AY1	20	21.4	8.01	24.4	8.09	27.3	8.15	30.1	8.26	33.0	8.31	35.8	8.36	38.7	8.41
	27	20.0	9.57	22.8	9.78	25.7	9.96	28.5	10.1	31.3	10.3	34.1	10.5	36.9	10.6
	32	18.8	10.7	21.6	11.0	24.4	11.3	27.2	11.6	29.9	11.9	32.7	12.2	35.5	12.5
	38	17.3	12.1	20.0	12.5	22.7	12.9	25.3	13.3	28.1	13.8	30.8	14.3	33.5	14.8
	43	15.6	13.0	18.2	13.6	20.8	14.2	23.2	14.9	24.9	14.9	26.9	14.9	28.1	14.5

Q: Cooling capacity
W: Power consumption

■ Rate of change in cooling capacity by piping length







Calculation method of cooling capacity

Cooling capacity = Reading value from cooling capacity table x Rate of change in cooling capacity by piping length

NOTES

1. ☐ is specified point.
2. The condition of characteristics of the table: 10°C (suction SH)
3. Consider decrease of capacity depended on frosting, and time of defrosting, please select larger model (about 15%).

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6 Capacity tables

6 - 1 Cooling capacity tables

LRMEQ15-20AY1(E)

Cooling capacity table

MODEL	Amb.	Suction pressure equivalent saturation temperature °C													
		-20		-15		-10		-5		0		5		10	
		Q	W	Q	W	Q	W	Q	W	Q	W	Q	W	Q	W
	°C	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
LRMEQ15AY1	20	28.1	10.2	32.0	10.3	36.0	10.4	39.8	10.5	43.7	10.6	47.6	10.7	51.4	10.9
	27	26.2	12.3	30.0	12.5	33.9	12.7	37.6	13.0	41.4	13.2	45.3	13.4	49.1	13.6
	32	24.7	13.8	28.5	14.1	32.2	14.5	35.9	14.9	39.7	15.3	43.4	15.7	47.2	16.2
	38	22.7	15.6	26.3	16.1	29.9	16.6	33.5	17.2	37.2	17.8	40.8	18.5	44.5	19.3
	43	20.5	17.1	23.9	17.9	27.4	18.8	31.0	19.9	34.5	20.9	38.0	21.4	38.8	20.4
LRMEQ20AY1	20	32.3	11.6	36.9	11.9	41.4	12.0	45.8	12.2	50.3	12.2	54.8	12.3	59.3	12.5
	27	30.1	13.9	34.5	14.4	38.9	14.6	43.3	14.9	47.7	15.1	52.1	15.4	56.5	15.7
	32	28.4	15.8	32.7	16.2	37.0	16.6	41.3	17.0	45.7	17.5	50.0	17.9	54.4	18.5
	38	26.0	17.5	30.2	18.4	34.3	18.9	38.5	19.6	42.8	20.2	47.0	21.0	50.2	21.4
	43	23.5	19.1	27.5	19.9	31.5	20.9	34.5	21.4	37.1	21.4	38.1	20.3	38.1	19.1

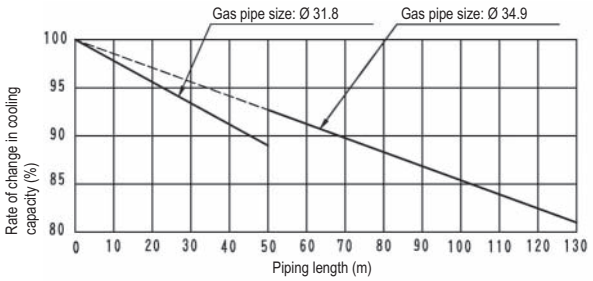
Q: Cooling capacity
W: Power consumption

Calculation method of cooling capacity

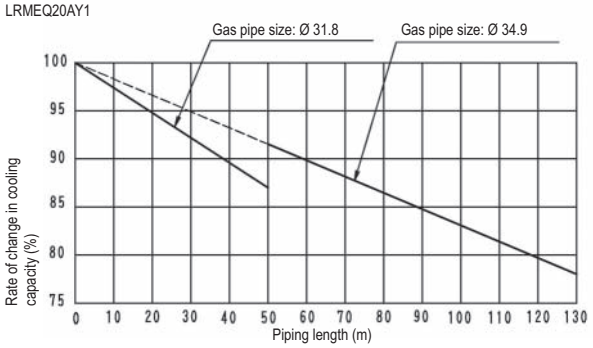
Cooling capacity = Reading value from cooling capacity table x Rate of change in cooling capacity by piping length

■ Rate of change in cooling capacity by piping length

LRMEQ15AY1



LRMEQ20AY1



NOTES

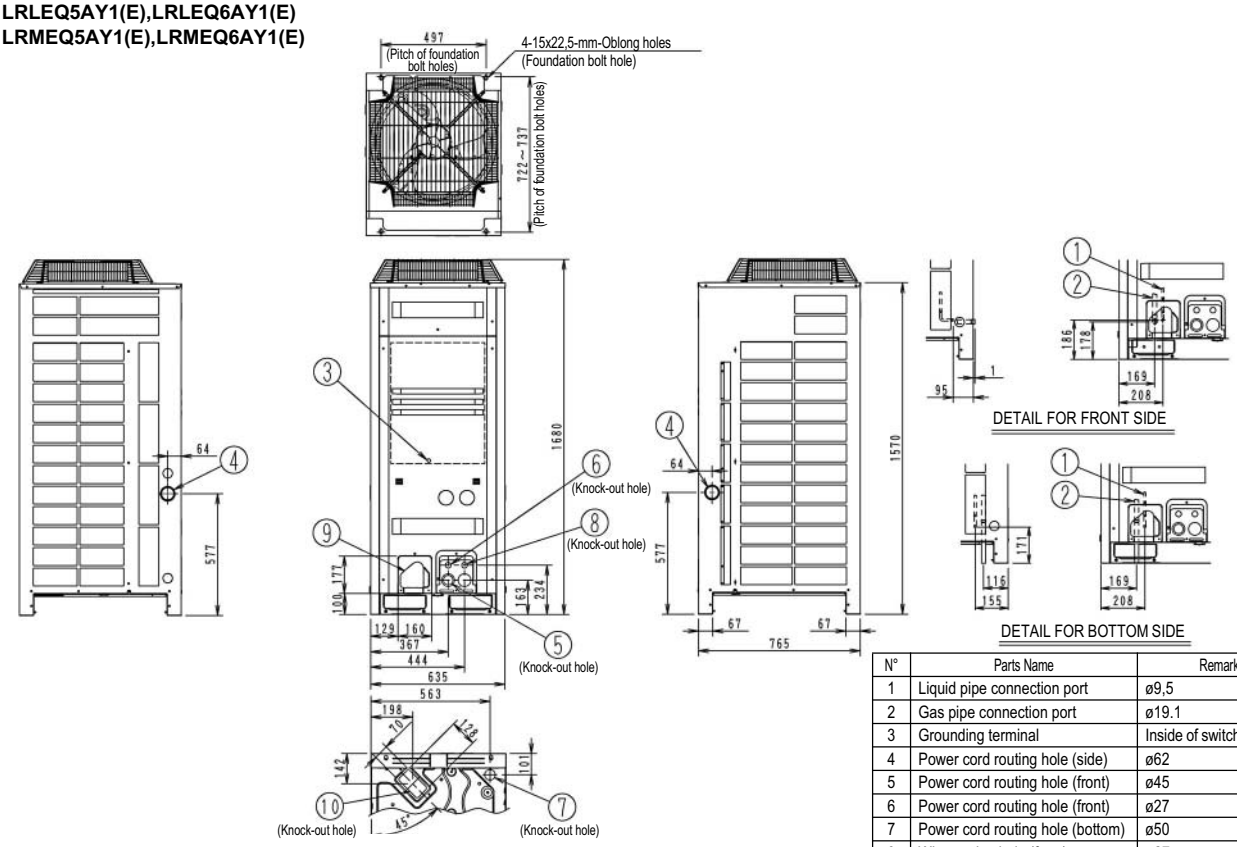
1. ▭ is specified point.
2. The condition of characteristics of the table: 10°C (suction SH)
3. Consider decrease of capacity depended on frosting, and time of defrosting, please select larger model (about 15%).

3D065033

7 Dimensional drawing & centre of gravity

7 - 1 Dimensional drawing

LRLEQ5AY1(E),LRLEQ6AY1(E)
LRMEQ5AY1(E),LRMEQ6AY1(E)



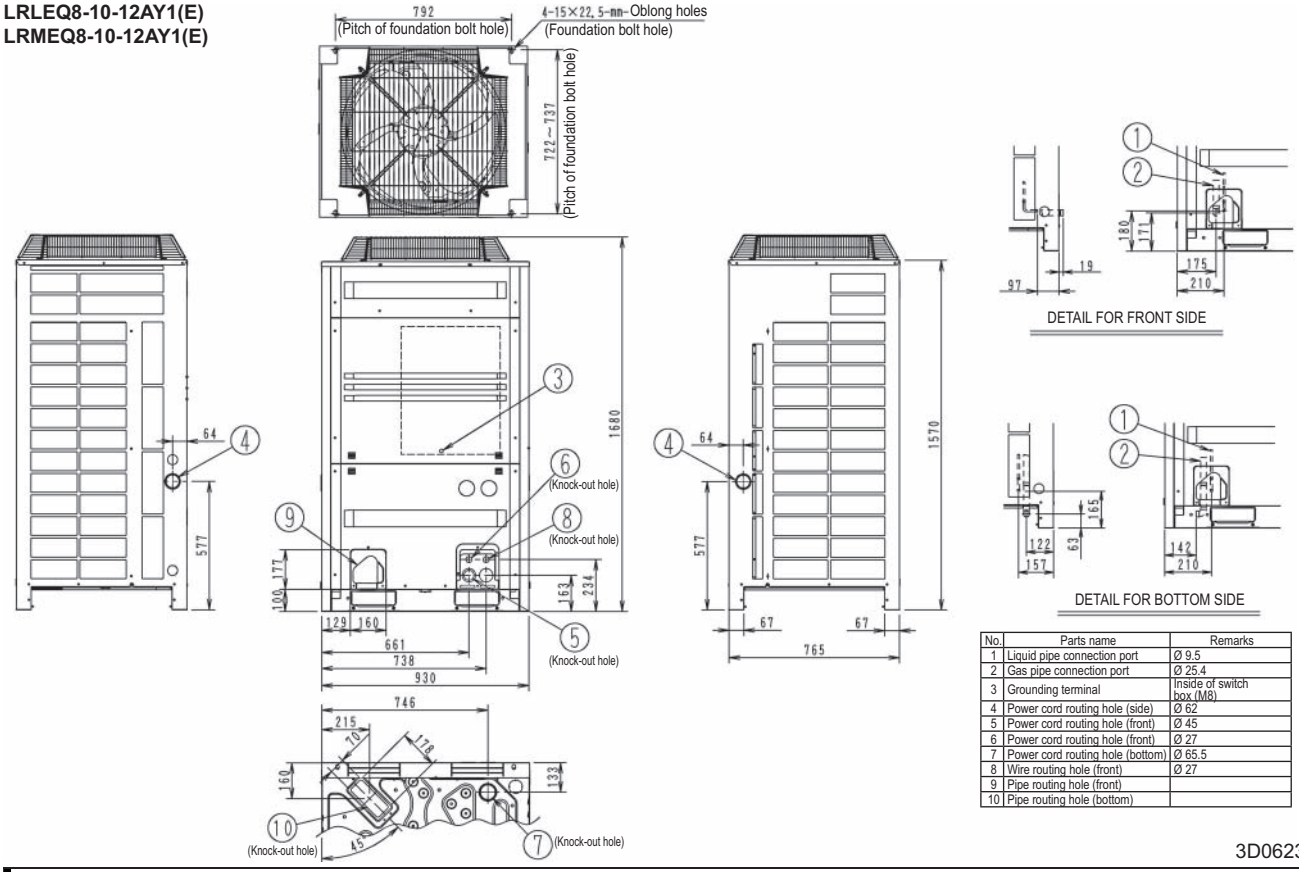
N°	Parts Name	Remarks
1	Liquid pipe connection port	ø9,5
2	Gas pipe connection port	ø19.1
3	Grounding terminal	Inside of switch box (M8)
4	Power cord routing hole (side)	ø62
5	Power cord routing hole (front)	ø45
6	Power cord routing hole (front)	ø27
7	Power cord routing hole (bottom)	ø50
8	Wire routing hole (front)	ø27
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	

NOTE

1 Detail for front side and detail for bottom side indicate the dimensions after fixing the attached piping

3D064898

LRLEQ8-10-12AY1(E)
LRMEQ8-10-12AY1(E)



No.	Parts name	Remarks
1	Liquid pipe connection port	Ø 9.5
2	Gas pipe connection port	Ø 25.4
3	Grounding terminal	Inside of switch box (M8)
4	Power cord routing hole (side)	Ø 62
5	Power cord routing hole (front)	Ø 45
6	Power cord routing hole (front)	Ø 27
7	Power cord routing hole (bottom)	Ø 65.5
8	Wire routing hole (front)	Ø 27
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	

3D062332

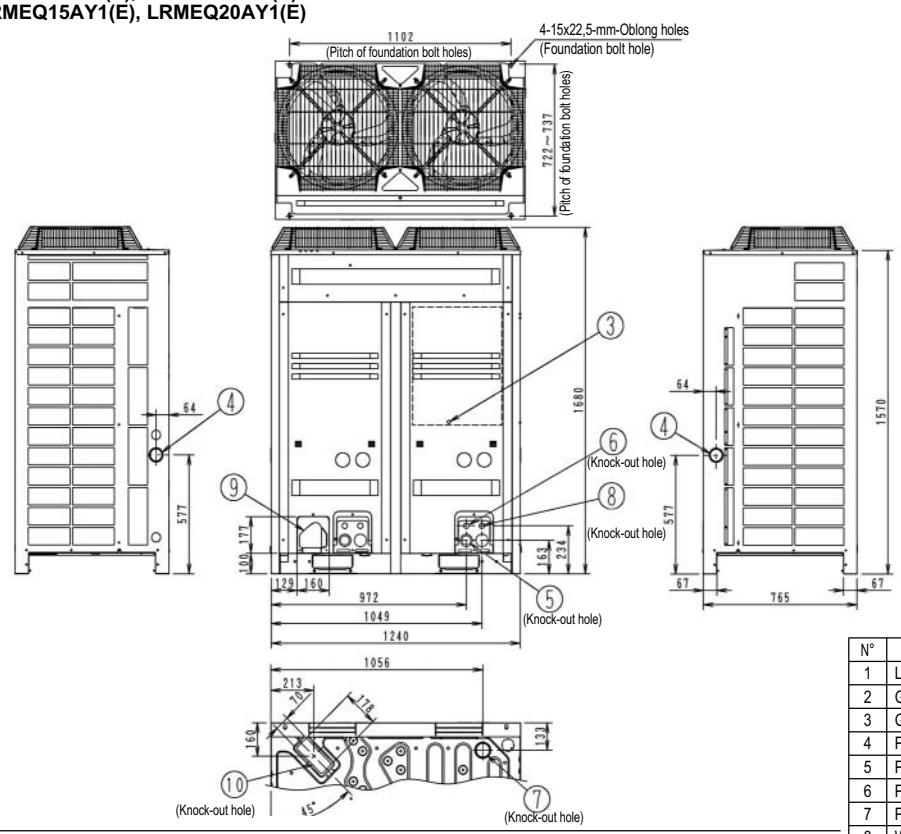
NOTES

1. Detail for front side and detail for bottom side indicate the dimensions after fixing the attached piping.

7 Dimensional drawing & centre of gravity

7 - 1 Dimensional drawing

LRLEQ15AY1(E), LRLEQ20AY1(E)
LRMEQ15AY1(E), LRMEQ20AY1(E)



N°	Parts Name	Remarks
1	Liquid pipe connection port	ø12.7
2	Gas pipe connection port	ø31.8
3	Grounding terminal	Inside of switch box (M8)
4	Power cord routing hole (side)	ø62
5	Power cord routing hole (front)	ø45
6	Power cord routing hole (front)	ø27
7	Power cord routing hole (bottom)	ø65.5
8	Wire routing hole (front)	ø27
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	

3D064900

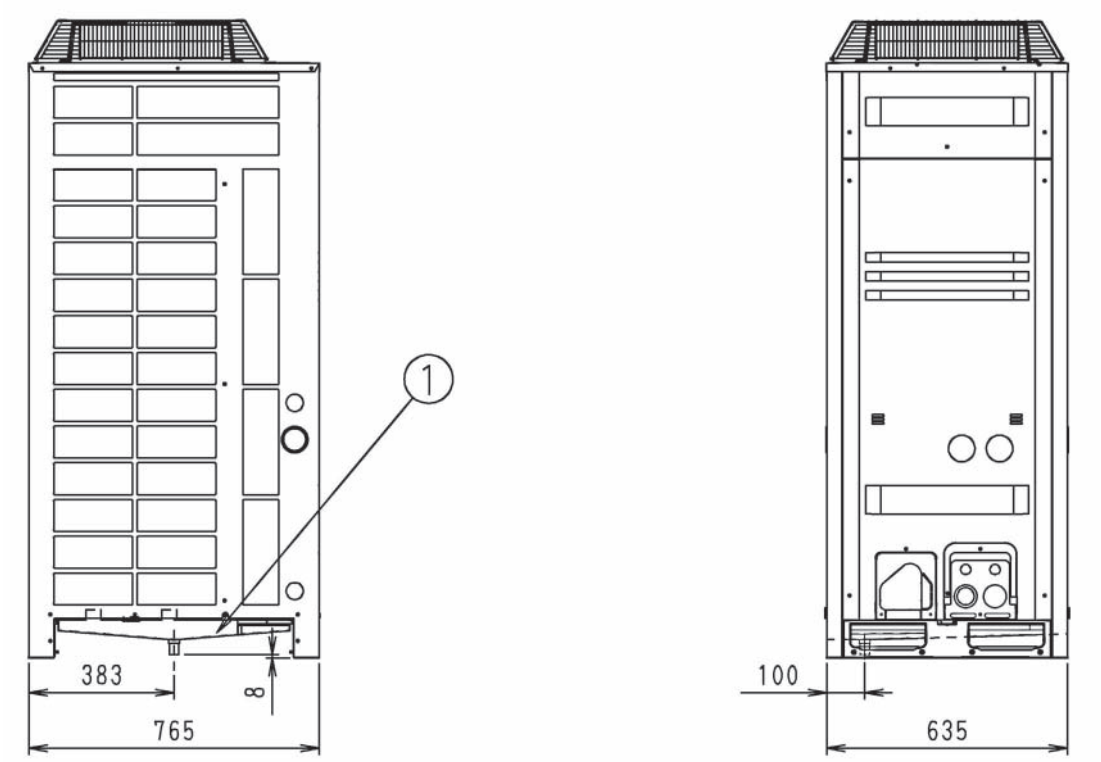
NOTE

1 Detail for front side and detail for bottom side indicate the dimensions after fixing the attached piping

7 Dimensional drawing & centre of gravity

7 - 1 Dimensional drawing

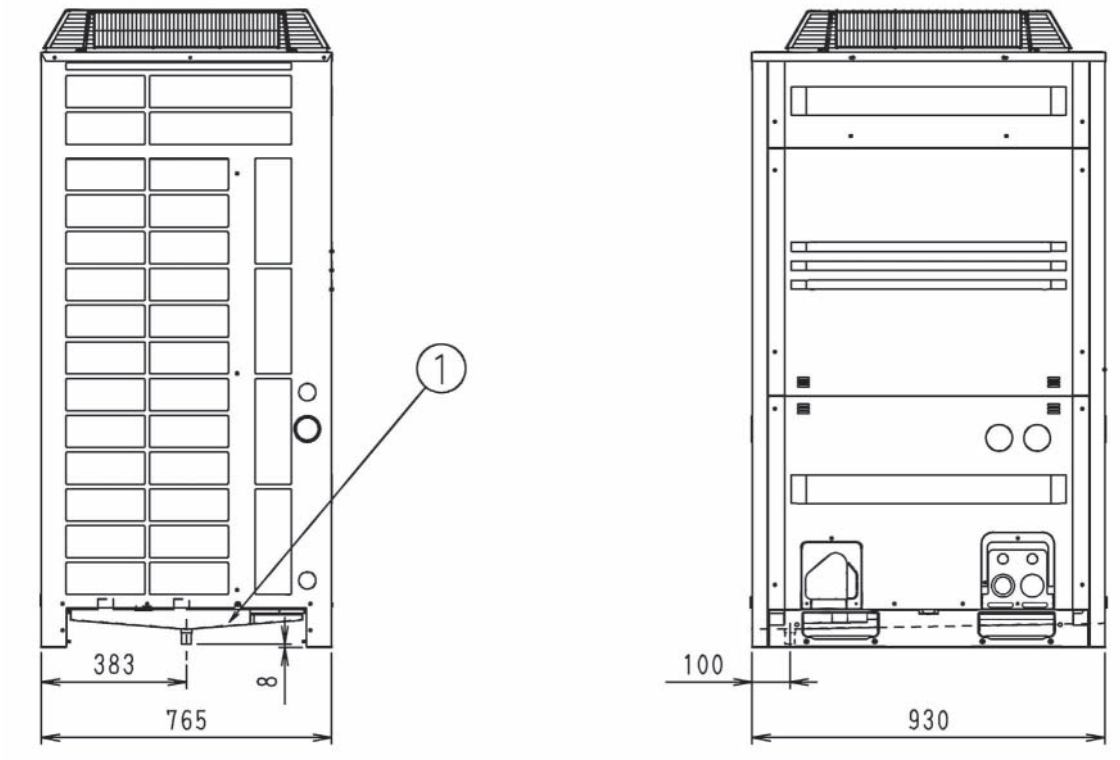
LRMEQ5-6AY1(E)
LRLEQ5-6AY1(E)



No.	Parts name	Remark
1	Central drain pan kit	KWC26C160(E)

3D065353

LRMEQ8-10-12AY1(E)
LRLEQ8-10-12AY1(E)



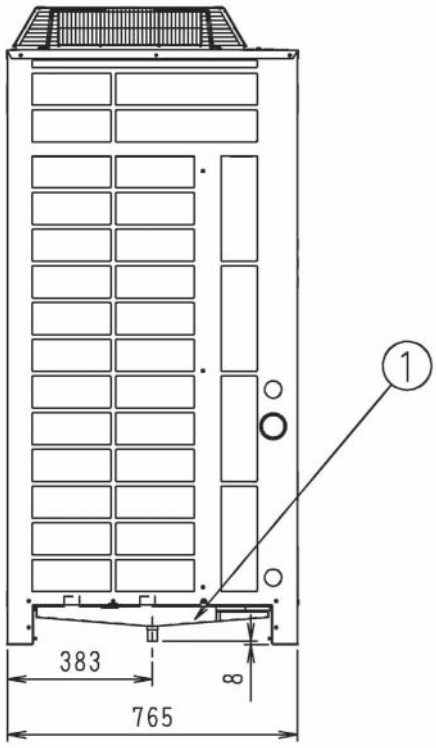
No.	Parts name	Remark
1	Central drain pan kit	KWC26C280(E)

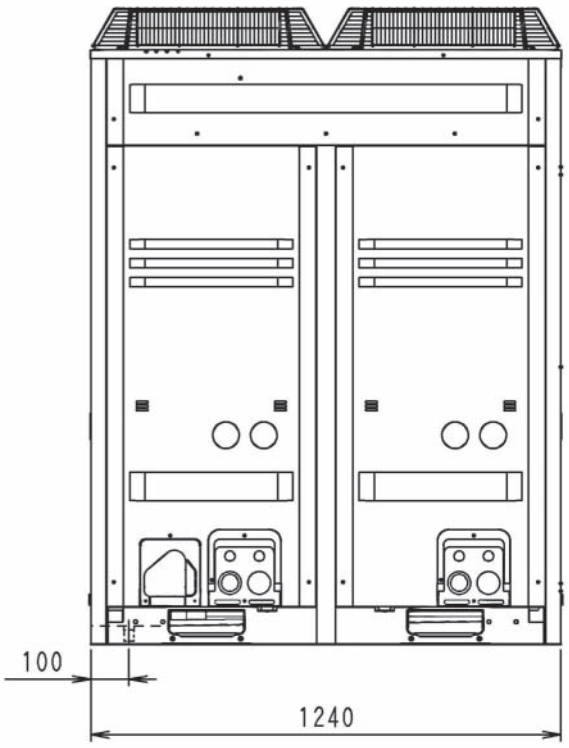
3D065354

7 Dimensional drawing & centre of gravity

7 - 1 Dimensional drawing

LRMEQ15-20AY1(E)
LRLEQ15-20AY1(E)





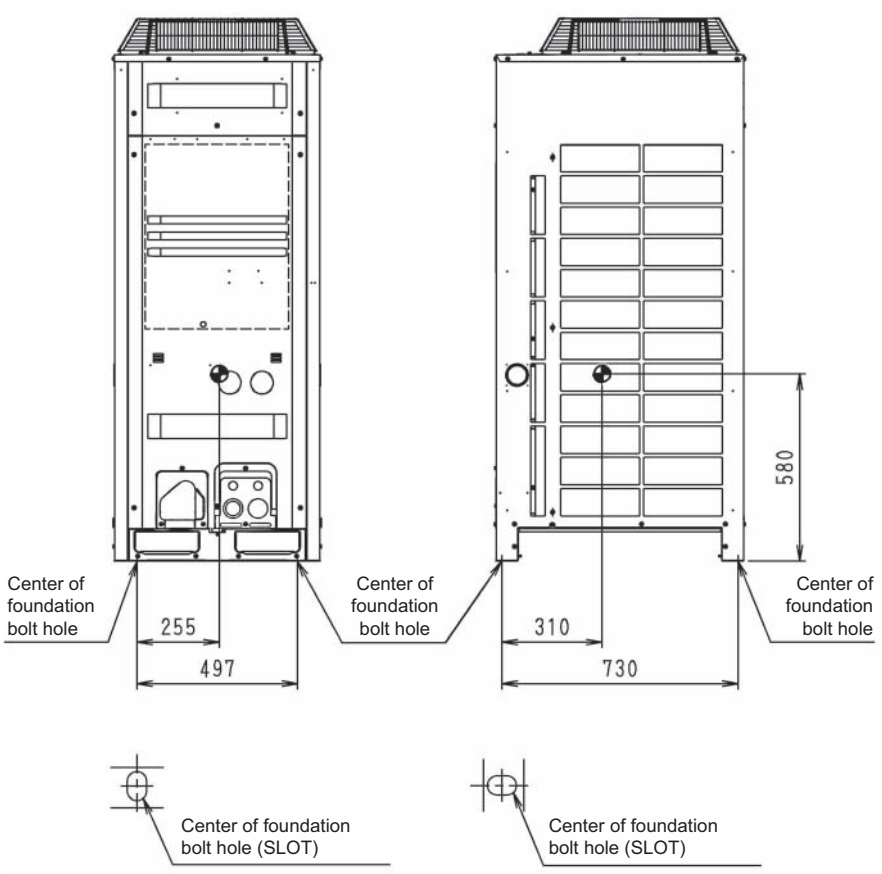
No.	Parts name	Remark
1	Central drain pan kit	KWC26C450(E)

3D065355

7 Dimensional drawing & centre of gravity

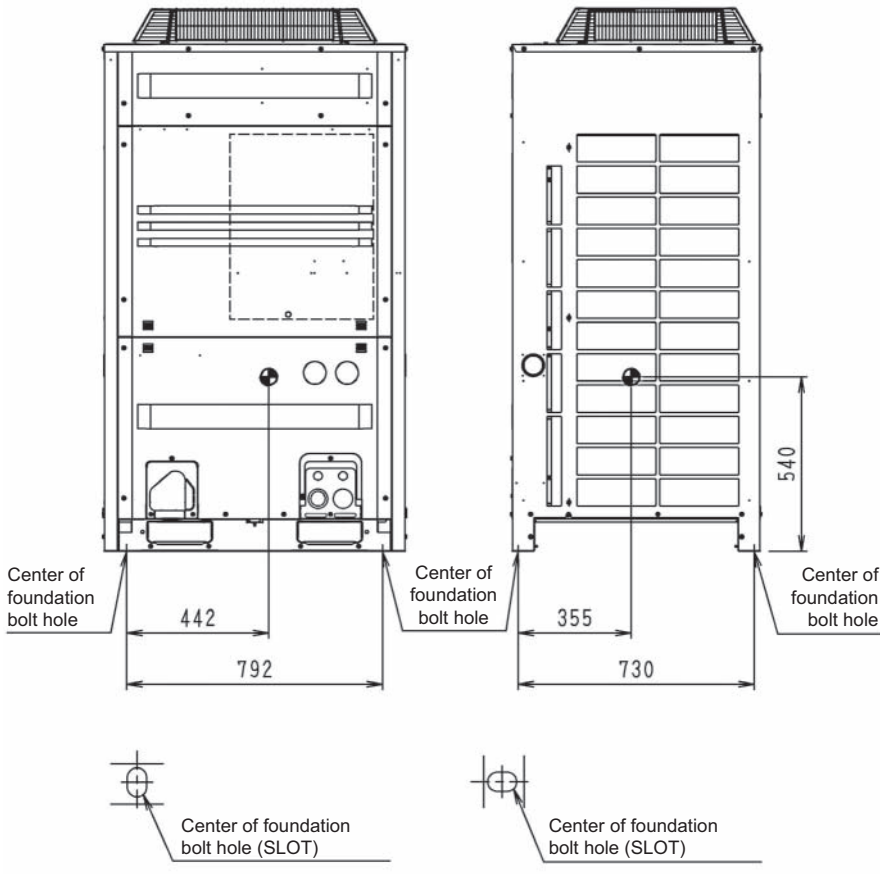
7 - 2 Centre of gravity

LRMEQ5,6AY1(E)
LRLEQ5,6AY1(E)



4D065026

LRMEQ8,10,12AY1(E)
LRLEQ8,10,12AY1(E)

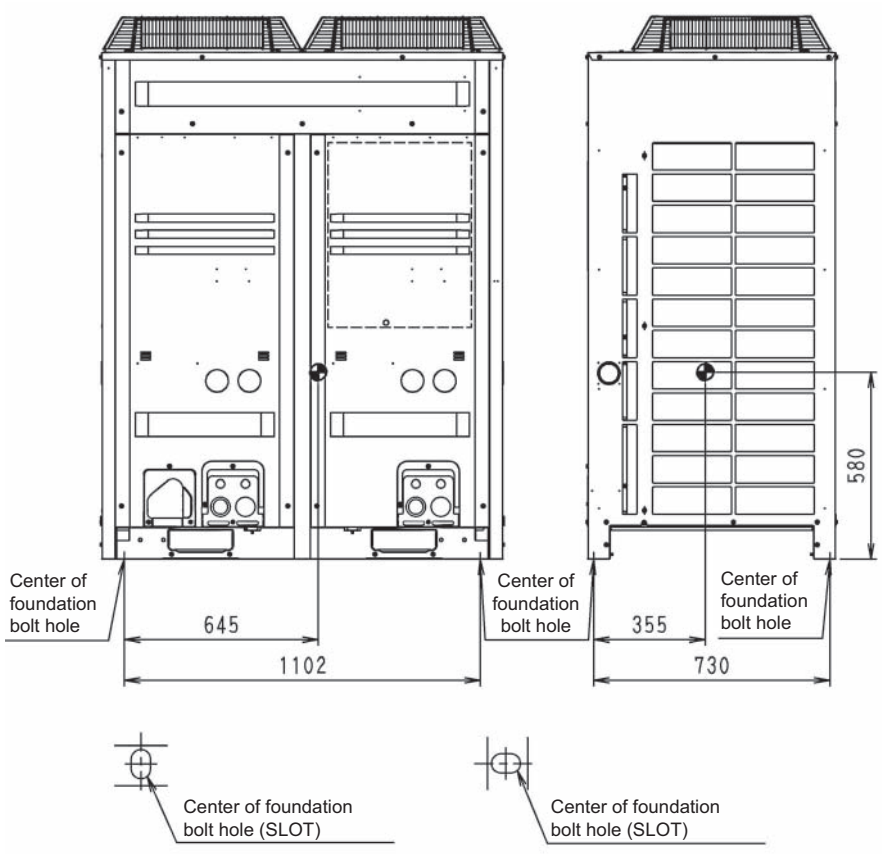


4D065027

7 Dimensional drawing & centre of gravity

7 - 2 Centre of gravity

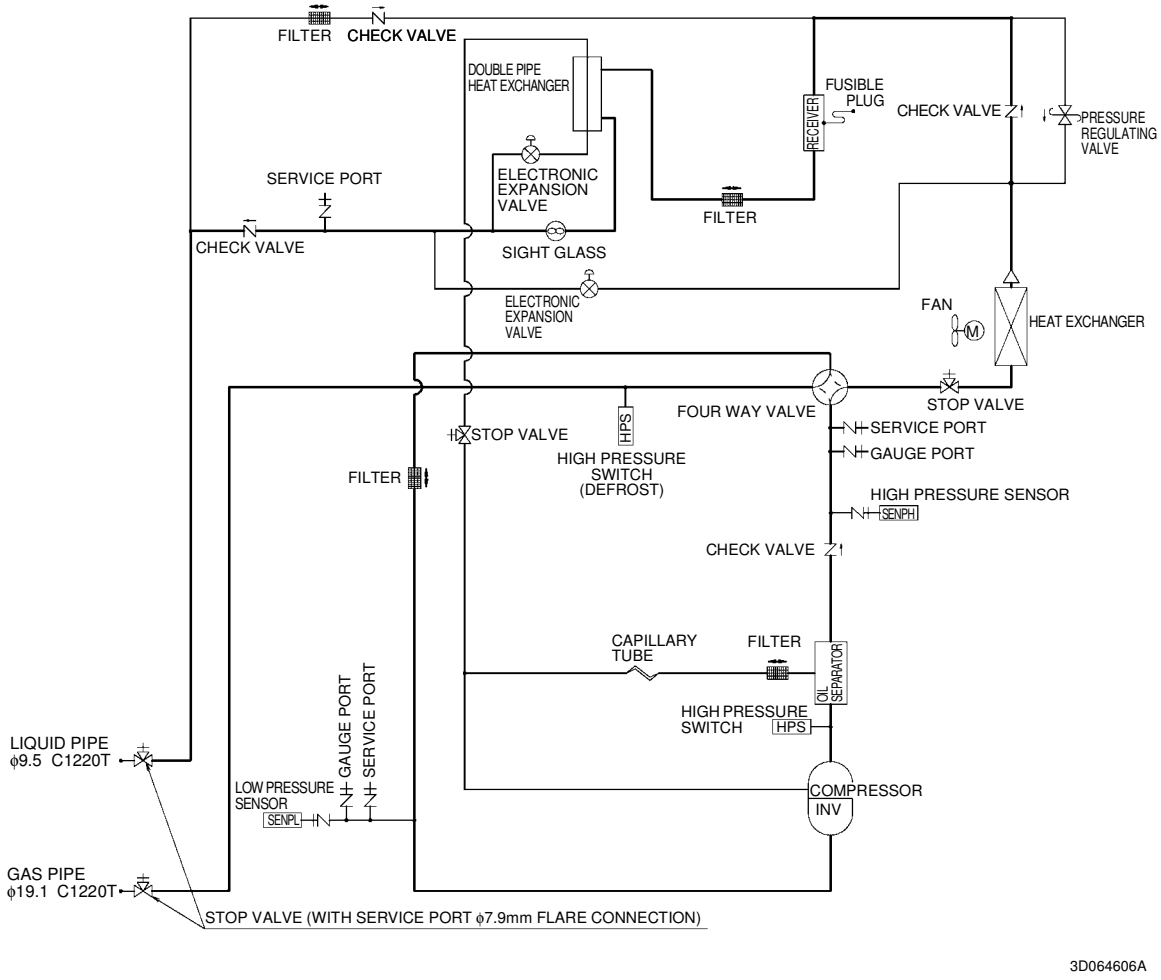
LRMEQ15,20AY1(E)
LRLEQ15,20AY1(E)



4D065028

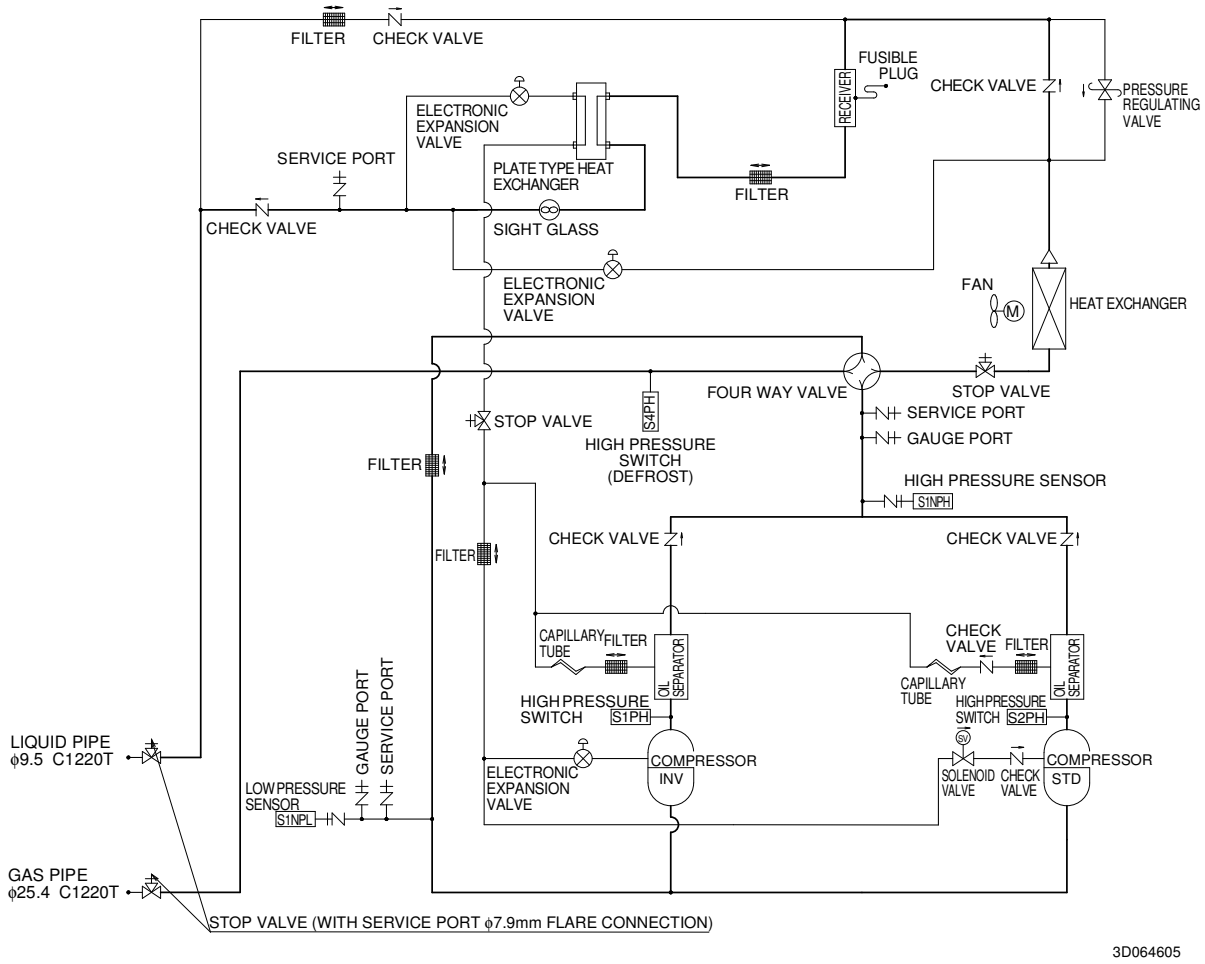
8 Piping diagram

LRLEQ5A, 6AY1(E)
LRMEQ5A, 6AY1(E)



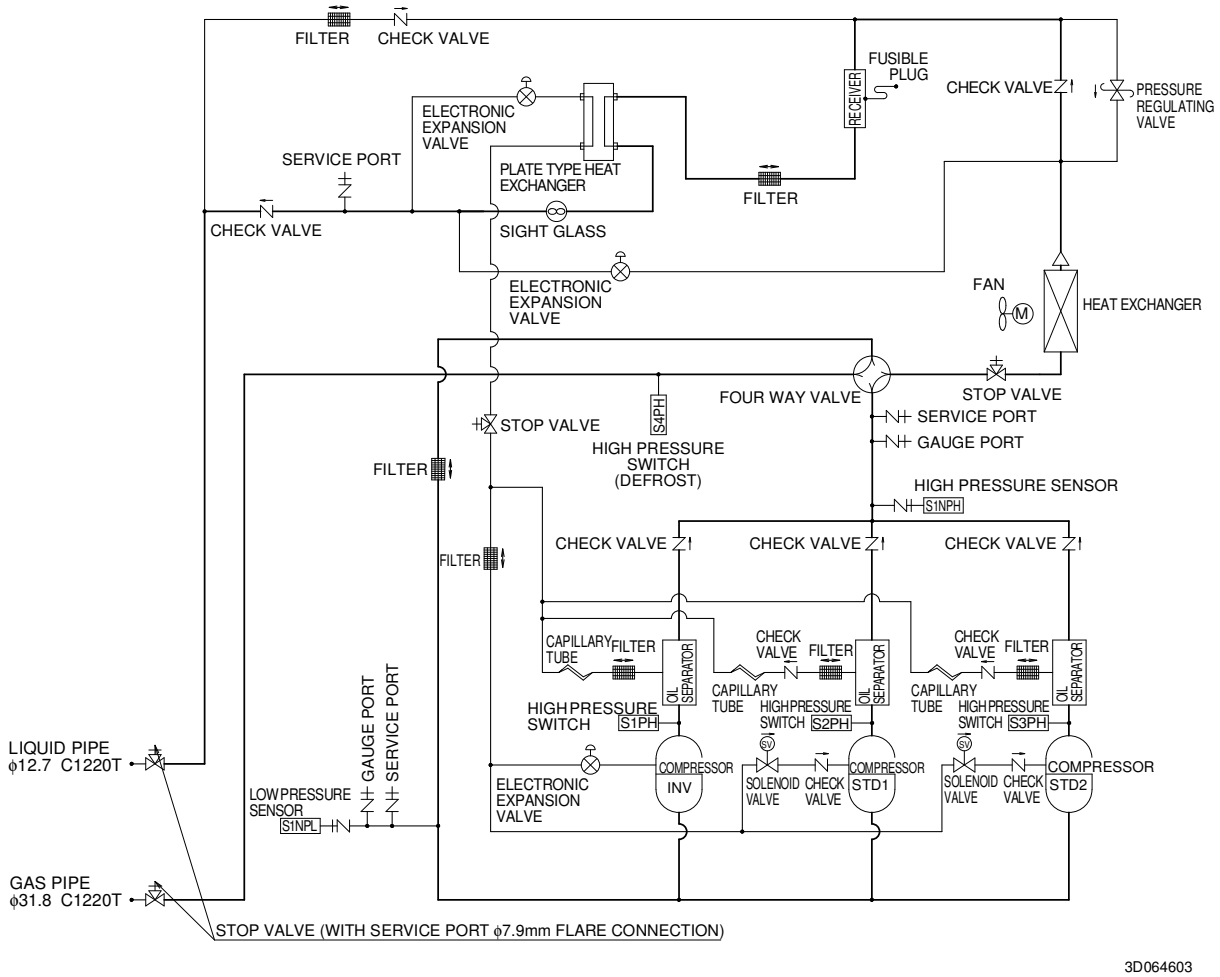
8 Piping diagram

LRLEQ8A, 10A, 12AY1(E)
LRMEQ8A, 10A, 12AY1(E)



8 Piping diagram

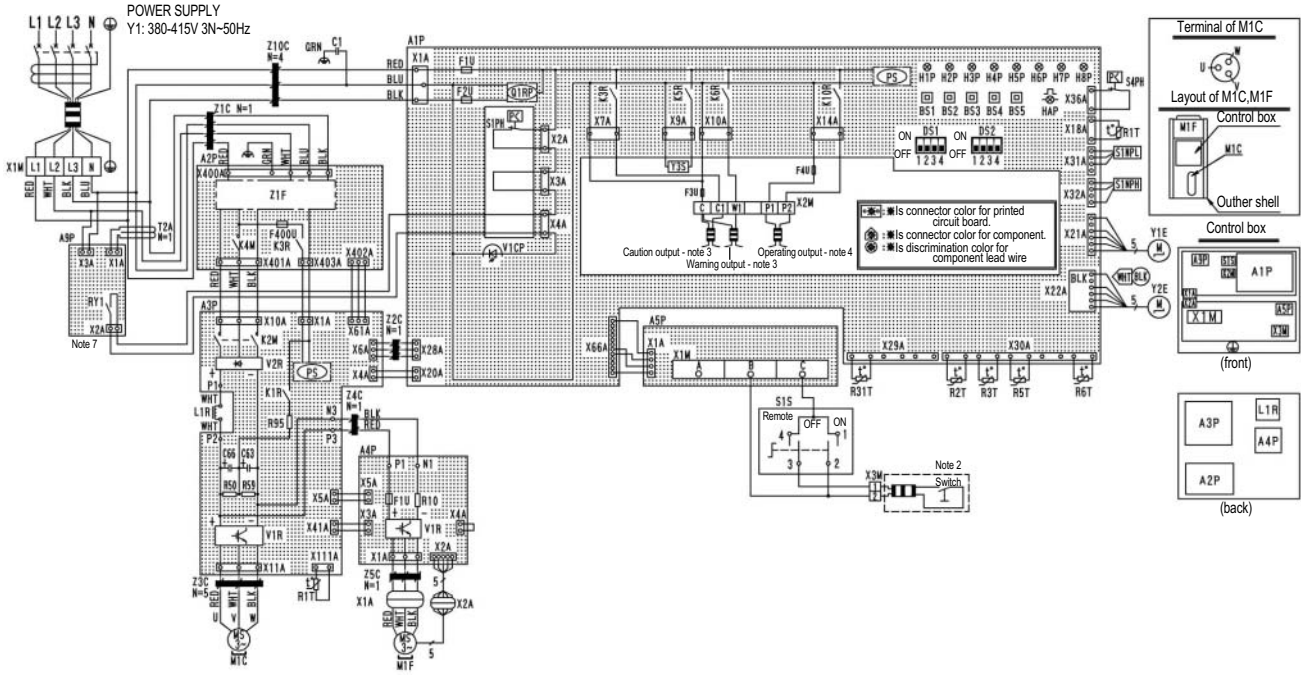
LRLEQ15A, 20AY1(E)
LRMEQ15A, 20AY1(E)



9 Wiring diagram

9 - 1 Wiring diagram

LRLEQ5AY1(E), LRLEQ6AY1(E)
LRMEQ5AY1(E), LRMEQ6AY1(E)



A1P	Printed circuit board (Main)	K3R	Magnetic relay (Caution output)	S1NPH	Pressure sensor (High)
A2P	Printed circuit board (Noise filter)	K5R	Magnetic relay (Y3S)	S1NPL	Pressure sensor (Low)
A3P	Printed circuit board (INV)	K6R	Magnetic relay (Warning output)	S1PH	Pressure switch (High)
A4P	Printed circuit board (Fan)	K10R	Magnetic relay (Operating output)	S1S	Operation switch (Remote / Off / On)
A5P	Printed circuit board (ABC I/P)	L1R	Reactor (A3P)	S4PH	Pressure switch (High)
A9P	Printed circuit board (Earth leakage detector)	M1C	Motor (Compressor)	T2A	Current sensor (A9P)
BS1~5	Push button switch (Mode, set, return, test, reset)	M1F	Motor (Fan)	V1CP	Safety devices input
		PS	Switching power supply (A1P, A3P)	V1R	Power module (A3P, A4P)
C1	Capacitor	Q1RP	Phase reversal detect circuit	V2R	Diode bridge (A3P)
C63, C66	Capacitor (A3P)	R10	Resistor (Current sensor) (A4P)	X1A, X2A	Connector (M1F)
DS1, DS2	Dip switch (A1P)	R50, R59	Resistor (A3P)	X1M	Terminal strip (Power supply)
F1U	Fuse (8A, DC650V) (A4P)	R95	Resistor (Current limiting)	X1M	Terminal strip (Operation) (A5P)
F1U, F2U	Fuse (T, 3.15A, 250V) (A1P)	R1T	Thermistor (Air) (A1P)	X2M	Terminal strip
F3U, F4U	Fuse (T, 1.0A, 250V)	R1T	Thermistor (Fin) (A3P)	X3M	Terminal strip (Remote switch)
F400U	Fuse (T, 6.3A, 250V) (A2P)	R2T	Thermistor (Suction)	Y1E	Electronic expansion valve (Main)
H1P~8P	Pilotlamp (Service monitor - Orange) [H2P] Malfunction detection --- Light up	R31T	Thermistor (M1C discharge)	Y2E	Electronic expansion valve (Gas)
		R3T	Thermistor (Heat exc. deicer)	Y3S	Solenoid valve (4 way valve)
HAP	Pilot lamp (service monitor-green)	R5T	Thermistor (Heat ex. of subcool outlet)	Z1C~5C, Z10C	Noise filter (Ferrite core)
K1R, K3R	Magnetic relay	R6T	Thermistor (Heat ex. of subcool inlet)	Z1F	Noise filter (With surge absorber) (A2P)
K2M, K4M	Magnetic contactor (M1C)	RY1	Magnetic relay (A9P)		

: Terminal strip
: Connector
: Terminal
: Field wiring
: Protective earth (screw)

Colors: RED: Red, BLK: Black, WHT: White, BLU: Blue, GRN: Green

3D059917-1C

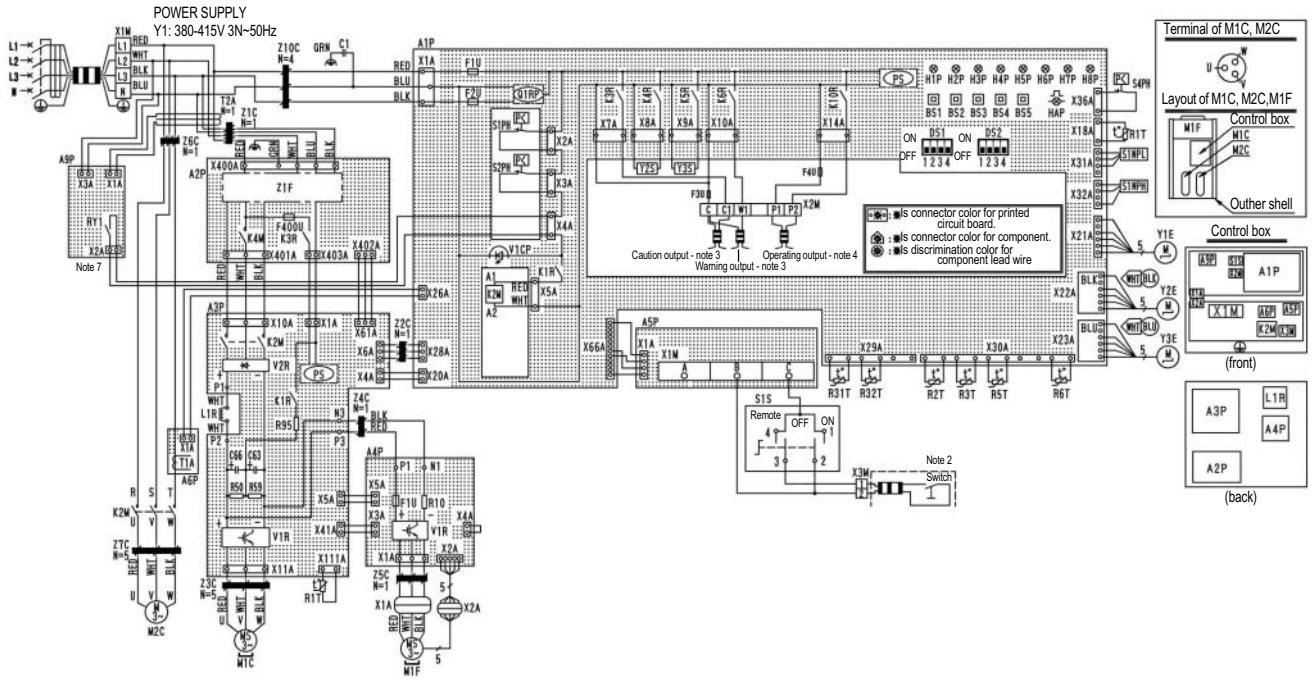
NOTES

1 This wiring diagram is applied only to the outdoor unit.
2 At the thime of factory shipment, setting of “on” or “remote”, the point of contact of the input must use the one for a slight current.
(For the remote switch, use non-voltage contact for microcurrent (not more than 1mA DC12v))
3 Be noted that the capacity of contact is AC220~240V, 0.5A (Total of caution output, warning output)
4 Be noted that the capacity of contact is AC220~240V, 0.5A (Operating output)
5 How to use BS1~5 and DS1 and DS2 switch. Refer to “sevice precaution” label on EL. Compo. Box cover.
6 When operating, don’t shortcircuit the protection device (S1PH).
7 RY1 point contact is open before turning on power supply.
Refer to technical guide for the operation timing diagram.

9 Wiring diagram

9 - 1 Wiring diagram

LRLEQ8AY1(E), LRLEQ10AY1(E), LRLEQ12AY1(E), LRMEQ8AY1(E), LRMEQ10AY1(E), LRMEQ12AY1(E)



A1P	Printed circuit board (Main)	K1R	Magnetic relay (K2M)	S1NPH	Pressure sensor (High)
A2P	Printed circuit board (Noise filter)	K3R	Magnetic relay (Caution output)	S1NPL	Pressure sensor (Low)
A3P	Printed circuit board (INV)	K4R	Magnetic relay (Y2S)	S1PH, S2PH	Pressure switch (High)
A4P	Printed circuit board (Fan)	K5R	Magnetic relay (Y3S)	S1S	Operation switch (Remote / Off / On)
A5P	Printed circuit board (ABC I/P)	K6R	Magnetic relay (Warning output)	S4PH	Pressure switch (High)
A6P	Printed circuit board (Current sensor)	K10R	Magnetic relay (Operating output)	T1A	Current sensor (A6P)
A9P	Printed circuit board (Earth leakage detector)	L1R	Reactor (A3P)	T2A	Current sensor (A9P)
BS1~5	Push button switch (Mode, set, return, test, reset)	M1C,M2C	Motor (Compressor)	V1CP	Safety devices input
		M1F	Motor (Fan)	V1R	Power module (A3P, A4P)
C1	Capacitor	PS	Switching power supply (A1P, A3P)	V2R	Diode bridge (A3P)
C63, C66	Capacitor (A3P)	Q1RP	Phase reversal detect circuit	X1A, X2A	Connector (M1F)
DS1, DS2	Dip switch (A1P)	R10	Resistor (Current sensor) (A4P)	X1M	Terminal strip (Power supply)
F1U	Fuse (8A, DC650V) (A4P)	R50, R59	Resistor (A3P)	X1M	Terminal strip (Operation) (A5P)
F1U, F2U	Fuse (T, 3.15A, 250V) (A1P)	R95	Resistor (Current limiting)	X2M	Terminal strip
F3U, F4U	Fuse (T, 1.0A, 250V)	R1T	Thermistor (Air) (A1P)	X3M	Terminal strip (Remote switch)
F400U	Fuse (T, 6.3A, 250V) (A2P)	R1T	Thermistor (Fin) A3P)	Y1E	Electronic expansion valve (Main)
H1P~8P	Pilotlamp (Service monitor - Orange [H2P] Malfunction detection --- Light up	R2T	Thermistor (Suction)	Y2E	Electronic expansion valve (Gas)
		R31T, R32T	Thermistor (M1C, M2C discharge)	Y3E	Electronic expansion valve (M1C)
HAP	Pilot lamp (service monitor-green)	R3T	Thermistor (Heat exc. deicer)	Y2S	Solenoid valve (M2C)
K1R, K3R	Magnetic relay	R5T	Thermistor (Heat ex. of subcool outlet)	Y3S	Solenoid valve (4 way valve)
K2M, K4M	Magnetic contactor (M1C)	R6T	Thermistor (Heat ex. of subcool inlet)	Z1C~7C, Z10C	Noise filter (Ferrite core)
K2M	Magnetic contactor (M2C)	RY1	Magnetic relay (A9P)	Z1F	Noise filter (With surge absorber) (A2P)

: Terminal strip
: Connector
: Terminal
: Field wiring
: Protective earth (screw)

Colors:
RED: Red
BLK: Black
WHT: White
BLU: Blue
GRN: Green

3D059918-1C

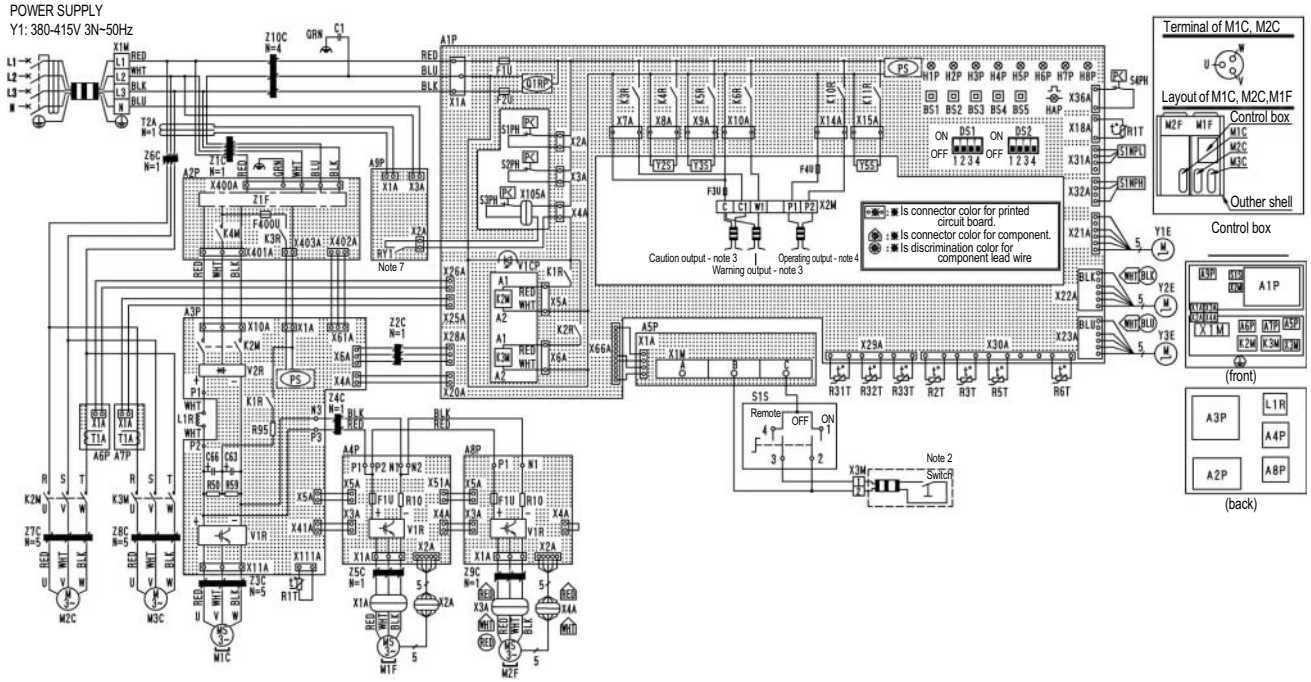
NOTES

1 This wiring diagram is applied only to the outdoor unit.
2 At the thime of factory shipment, setting of “off”. When operating, setting “on” or “remote”.
The point of contact of the input must use one for a slight current.
(For the remote switch, use non-voltage contact for microcurrent (not more than 1mA DC12v))
3 Be noted that the capacity of contact is AC220~240V, 0.5A (Total of caution output, warning output)
4 Be noted that the capacity of contact is AC220~240V, 0.5A (Operating output)
5 How to use BS1~5 and DS1 and DS2 switch. Refer to “sevice precaution” label on EL. Compo. Box cover.
6 When operating, don’t shortcircuit the protection device (S1PH).
7 RY1 point contact is open before turning on power supply.
Refer to technical guide for the operation timing diagram.

9 Wiring diagram

9 - 1 Wiring diagram

LRLEQ15AY1(E), LRLEQ20AY1(E)
LRMEQ15AY1(E), LRMEQ20AY1(E)



A1P	Printed circuit board (Main)	K3R	Magnetic relay (Caution output)	S1NPL	Pressure sensor (Low)
A2P	Printed circuit board (Noise filter)	K4R	Magnetic relay (Y2S)	S1PH~3PH	Pressure switch (High)
A3P	Printed circuit board (INV)	K5R	Magnetic relay (Y3S)	S1S	Operation switch (Remote / Off / On)
A4P, A8P	Printed circuit board (Fan)	K6R	Magnetic relay (Warning output)	T1A	Current sensor (A6P)
A5P	Printed circuit board (ABC I/P)	K10R	Magnetic relay (Operating output)	T2A	Current sensor (A9P)
A6P, A7P	Printed circuit board (Current sensor)	K11R	Magnetic relay (Y5S)	V1CP	Safety devices input
A9P	Printed circuit board (Earth leakage detector)	L1R	Reactor (A3P)	V1R	Power module (A3P, A4P)
BS1~5	Push button switch (Mode, set, return, test, reset)	M1C~3C	Motor (Compressor)	V2R	Diode bridge (A3P)
		M1F, M2F	Motor (Fan)	X1A~4A	Connector (M1F)
C1	Capacitor	PS	Switching power supply (A1P, A3P)	X105A	Connector (S3PH)
C63, C66	Capacitor (A3P)	Q1RP	Phase reversal detect circuit	X1M	Terminal strip (Power supply)
DS1, DS2	Dip switch (A1P)	R10	Resistor (Current sensor) (A4P)	X1M	Terminal strip (Operation) (A5P)
F1U	Fuse (8A, DC650V) (A4P)	R50, R59	Resistor (A3P)	X2M	Terminal strip
F1U, F2U	Fuse (T, 3.15A, 250V) (A1P)	R95	Resistor (Current limiting)	X3M	Terminal strip (Remote switch)
F3U, F4U	Fuse (T, 1.0A, 250V)	R1T	Thermistor (Air) (A1P)	Y1E	Electronic expansion valve (Main)
F400U	Fuse (T, 6.3A, 250V) (A2P)	R1T	Thermistor (Fin) A3P)	Y2E	Electronic expansion valve (Gas)
H1P~8P	Pilotlamp (Service monitor - Orange [H2P] Malfunction detection --- Light up	R2T	Thermistor (Suction)	Y3E	Electronic expansion valve (M1C)
		R31~33T	Thermistor (M1C, M2C discharge)	Y2S	Solenoid valve (5m2C)
HAP	Pilot lamp (service monitor-green)	R3T	Thermistor (Heat exc. deicer)	Y3S	Solenoid valve (4 way valve)
K1R, K3R	Magnetic relay	R5T	Thermistor (Heat ex. of subcool outlet)	Y5S	Solenoid valve (M3C)
K2M, K4M	Magnetic contactor (M1C)	R6T	Thermistor (Heat ex. of subcool inlet)	Z1C~10C	Noise filter (Ferrite core)
K2M, K3M	Magnetic contactor (M2C)	RY1	Magnetic relay (A9P)	Z1F	Noise filter (With surge absorber) (A2P)
K1R,K2R	Magnetic relay (K2M)	S1NPH	Pressure sensor (High)		

	: Terminal strip	Colors:	RED: Red
	: Connector		BLK: Black
	: Terminal		WHT: White
	: Field wiring		BLU: Blue
	: Protective earth (screw)		GRN: Green

3D063035-1B

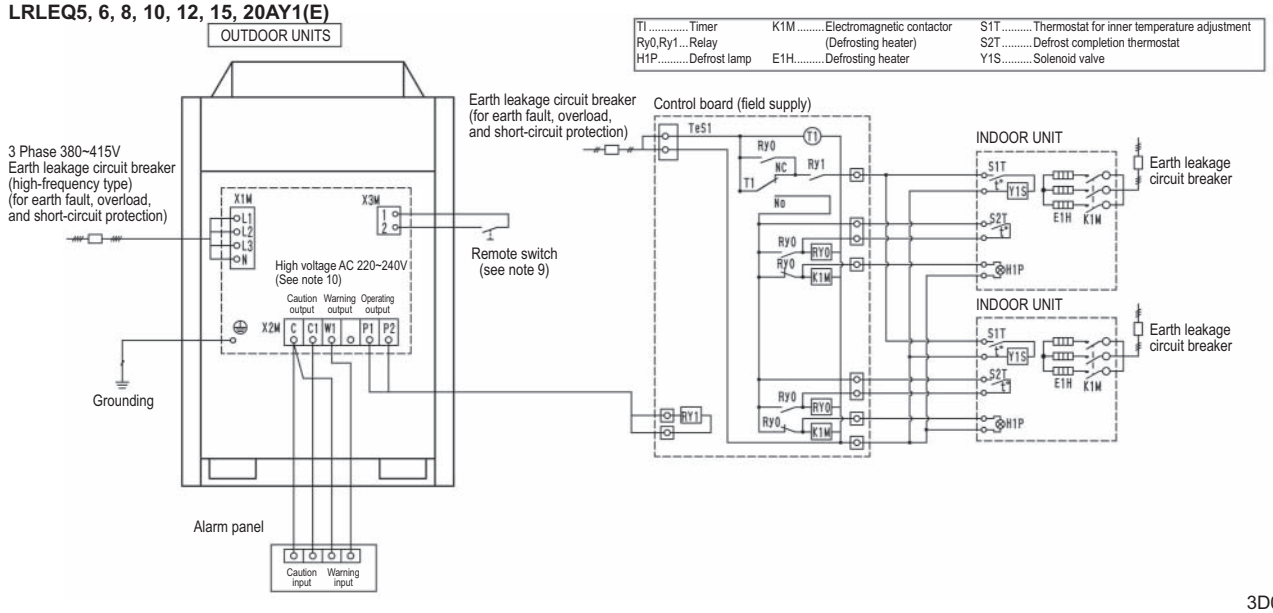
NOTES

1 This wiring diagram is applied only to the outdoor unit.
2 At the thime of factory shipment, setting of “off”. When operating, setting “on” or “remote”.
The point of contact of the input must use one for a slight current.
(For the remote switch, use non-voltage contact for microcurrent (not more than 1mA DC12v))
3 Be noted that the capacity of contact is AC220~240V, 0.5A (Total of caution output, warning output)
4 Be noted that the capacity of contact is AC220~240V, 0.5A (Operating output)
5 How to use BS1~5 and DS1 and DS2 switch. Refer to “sevice precaution” label on EL. Compo. Box cover.
6 When operating, don’t shortcircuit the protection device (S1PH~S3PH).
7 RY1 point contact is open before turning on power supply.
Refer to technical guide for the operation timing diagram.

9 Wiring diagram

9 - 2 External connection diagram

LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5, 6, 8, 10, 12, 15, 20AY1(E)



3D065037

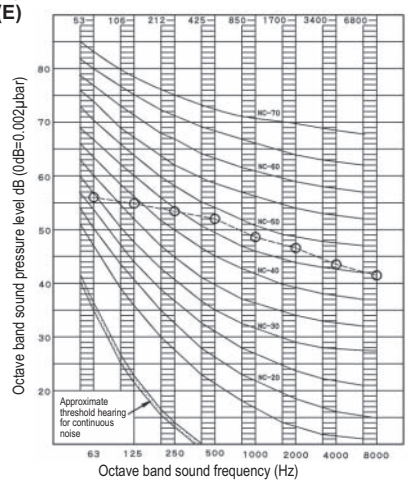
NOTES

1. All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
2. Use copper conductors only.
3. As for details, see wiring diagram.
4. Install circuit breaker for safety.
5. All field wiring and components must be provided by licensed electrician.
6. Unit shall be grounded in compliance with the applicable local and national codes.
7. Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8. If there exists the possibility of reversed phase, lose phase, momentary blackout or the power goes on and off while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase may break the compressor and other parts.
9. In case of used remote switch, use non-voltage contact for microcurrent (not more than 1mA, 12V DC).
10. Total capacity for caution, warning: 0.5A or less at AC 220 to 240V.
    Capacity for operation output: 0.5A or less at AC 220 to 240V.

10 Sound data

10 - 1 Sound pressure spectrum

LRMEQ5AY1(E)
LRLEQ5AY1 (E)



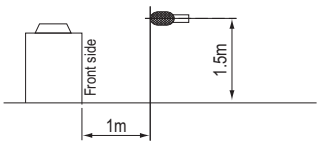
4D065019

NOTES

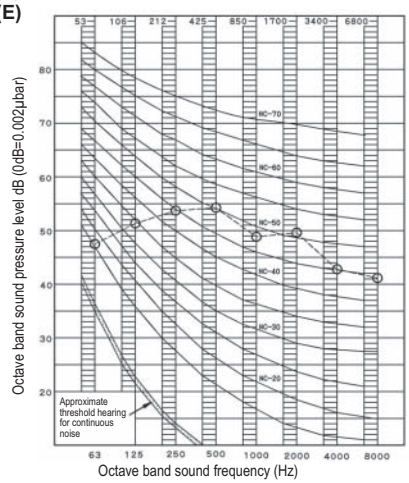
Scale	50Hz
A	55
C	60.5

1 Over All (dB):
(B,G,N is already rectified)
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



LRMEQ6AY1(E)
LRLEQ6AY1 (E)



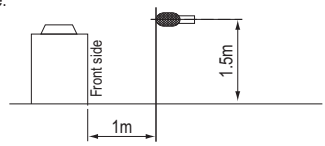
4D065021

NOTES

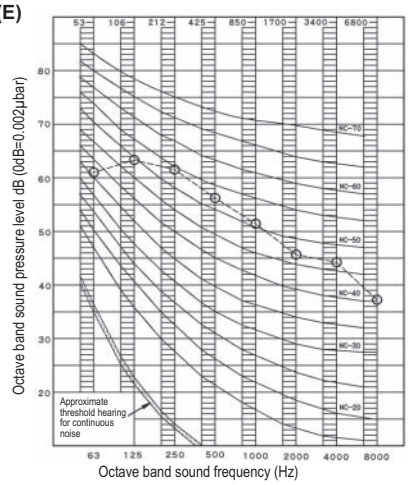
Scale	50Hz
A	56.0
C	59.5

1 Over All (dB):
(B,G,N is already rectified)
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



LRMEQ8AY1(E)
LRLEQ8AY1 (E)



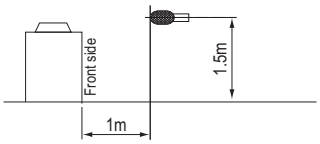
4D065022

NOTES

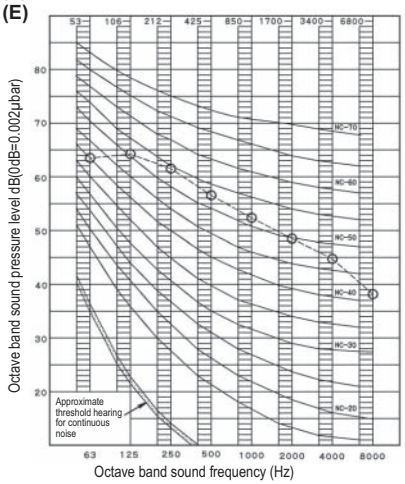
Scale	50Hz
A	57.0
C	67.0

1 Over All (dB):
(B,G,N is already rectified)
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



LRMEQ10AY1(E)
LRLEQ10AY1 (E)



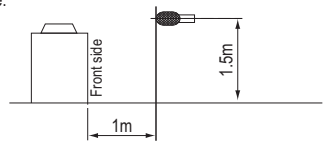
4D065023

NOTES

Scale	50Hz
A	59.0
C	68.5

1 Over All (dB):
(B,G,N is already rectified)
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

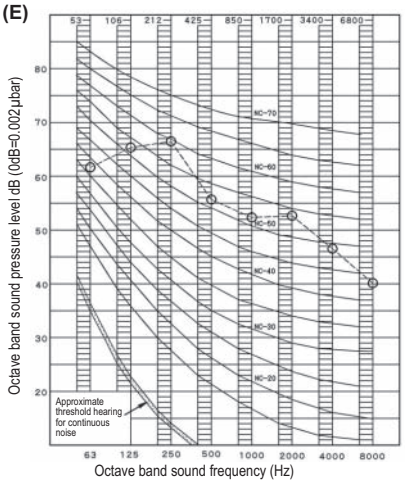
3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



10 Sound data

10 - 1 Sound pressure spectrum

LRMEQ12AY1(E)
LRLEQ12AY1 (E)



4D065024

NOTES

1 Over All (dB):
(B,G,N is already rectified)

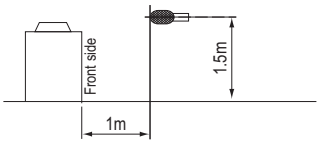
Scale	50Hz
A	61.0
C	69.5

2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

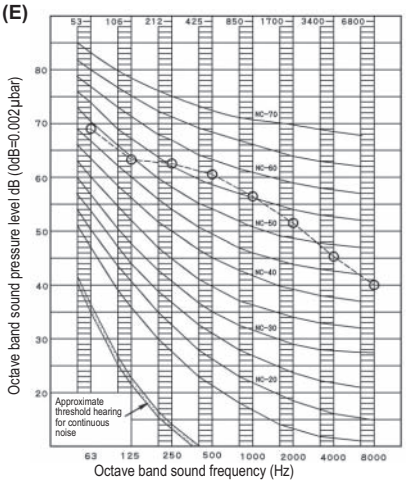
3 Measuring place: Anechoic chamber (conversion value).

4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.

5 Location of microphone.



LRMEQ15AY1(E)
LRLEQ15AY1 (E)



4D065025

NOTES

1 Over All (dB):
(B,G,N is already rectified)

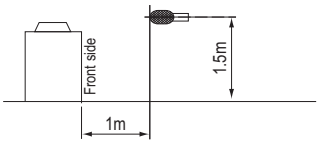
Scale	50Hz
A	62.0
C	71.0

2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

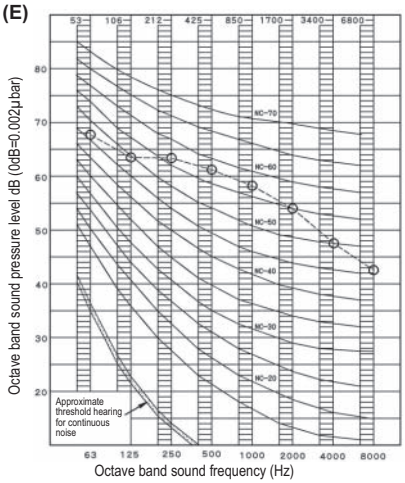
3 Measuring place: Anechoic chamber (conversion value).

4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.

5 Location of microphone.



LRMEQ20AY1(E)
LRLEQ20AY1 (E)



4D065020

NOTES

1 Over All (dB):
(B,G,N is already rectified)

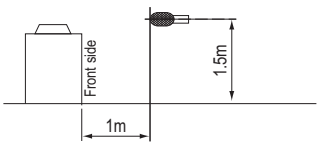
Scale	50Hz
A	63.0
C	70.5

2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

3 Measuring place: Anechoic chamber (conversion value).

4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.

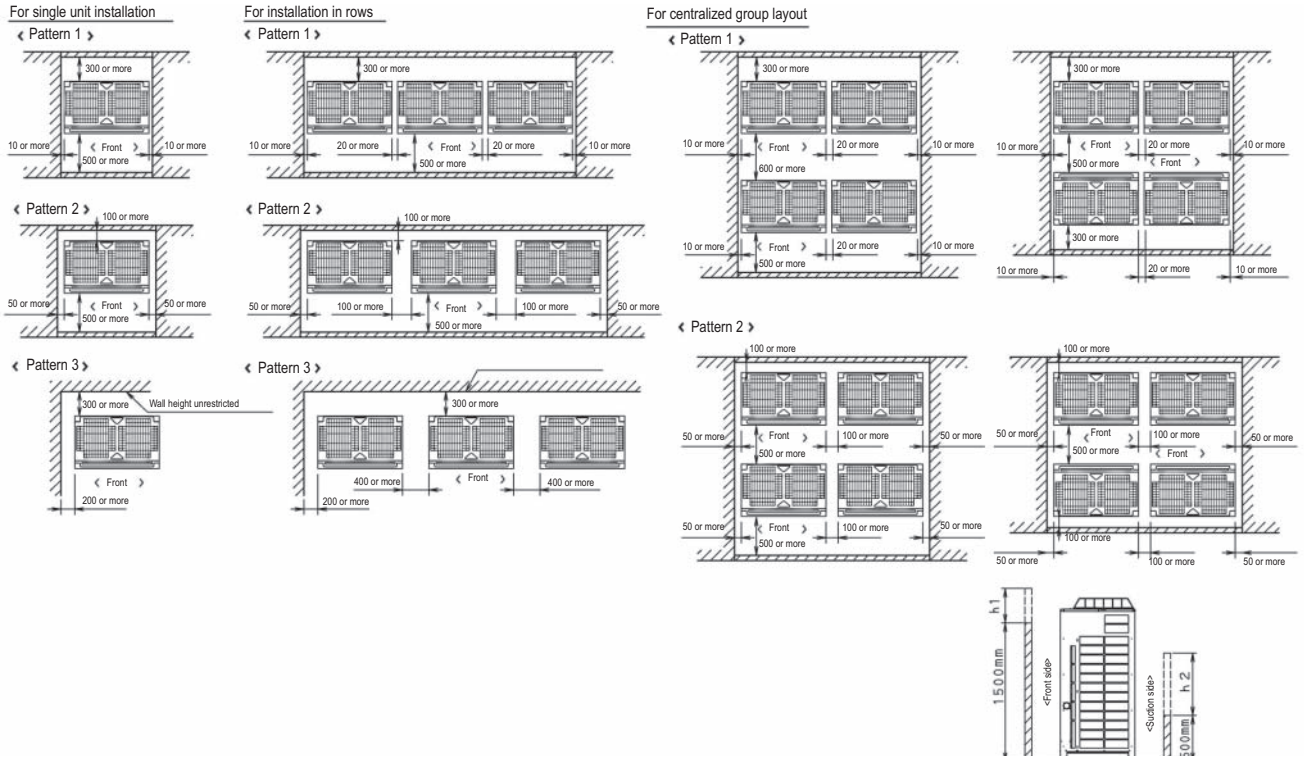
5 Location of microphone.



11 Installation

11 - 1 Installation method

LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5,6,8,10,12,15,20AY1(E)



3D065029

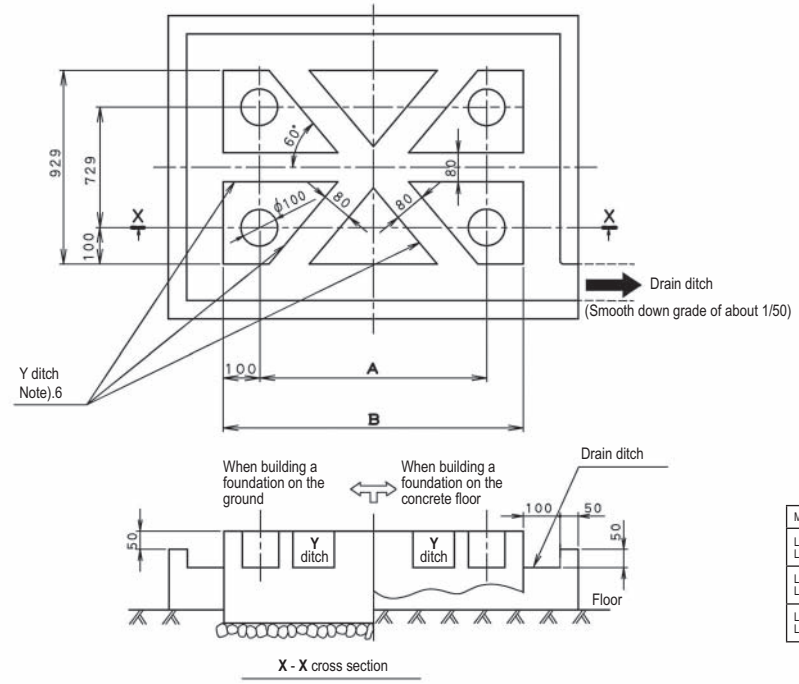
NOTES

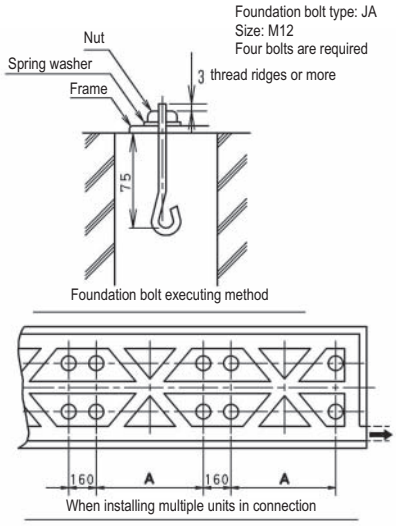
1. Heights of walls in case of Patterns 1 and 2.
   Front: 1500mm
   Suction side: 500mm
   Sides: Height unrestricted.
   Installation space to be shown in this drawing is based on the cooling operation at 32 degrees outdoor air temperature. When the design outdoor air temperature exceeds 32 degrees or the load exceeds maximum ability because of much generation load of heat in all outdoor unit, take the suction side space more broadly than the space to be shown in this drawing.
2. If the above wall heights are exceeded then h2/2 and h1/2 should be added to the front and suction side service spaces respectively as shown in the figure on the right.
   h1=A (Actual height)-1500
   h2=B(Actual height)-500
   X=500+h1/2 or over
   Y=300+h2/2 or over
   (Y=100+h2/2 or over)
   [Values in parentheses are for pattern 2]
3. When installing the units most appropriate pattern should be selected from those shown above in order to obtain the best fit in the space available always bearing in mind the need to leave enough space for a person to pass between units and wall and for the air to circulate freely.
   (If more units are to be installed than are catered for in the above patterns your layout should take account of the possibility of short circuits.)
4. The units should be installed to leave sufficient space at the front for the on site refrigerant piping work to be carried out comfortably.

11 Installation

11 - 2 Fixation and foundation of units

LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5,6,8,10,12,15,20AY1(E)





Model	A	B
LRMEQ5AY1(E), LRMEQ6AY1(E) LRLEQ5AY1(E), LRLEQ6AY1(E)	497	697
LRMEQ8AY1(E), LRMEQ10AY1(E), LRMEQ12AY1(E) LRLEQ8AY1(E), LRLEQ10AY1(E), LRLEQ12AY1(E)	792	992
LRMEQ15AY1(E), LRMEQ20AY1(E) LRLEQ15AY1(E), LRLEQ20AY1(E)	1102	1302

3D065348

NOTES

1. The proportions of cement: sand: gravel for the concrete shall be 1:2:4 and the reinforcement bars that their diameter are 10 mm (approx. 300mm intervals) shall be placed.
2. The surface shall be finished with mortar. The corner edges shall be chamfered.
3. When the foundation is built on a concrete floor, rubble is not necessary. However, the surface of the section on which the foundation is built shall have rough finish.
4. A drain ditch shal be made around the foundation to thoroughly drain water from the equipment installation area.
5. When istalling the equipment on a roof, the floor strength shall be checked, and water-proofing measures shall be taken.
6. Y ditch is not necessary for the following model.
   LRMEQ5AY1(E), LRMEQ6AY1(E), LRLEQ5AY1(E), LRLEQ6AY1(E)

12 Operation range

LRMEQ5,6,8,10,12,15,20AY1

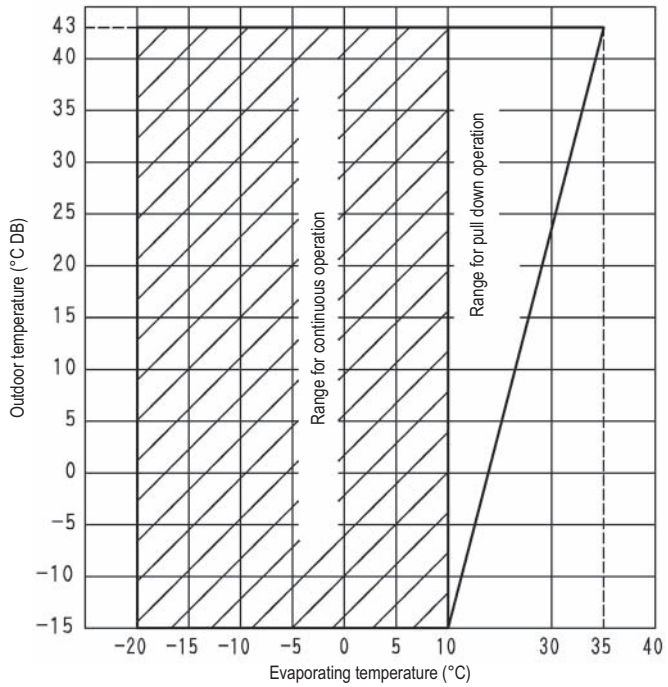
ITEM		STANDARD FOR USE
Power supply	Voltage fluctuation	Within ± 10% of rated voltage
	Unbalanced load	Within ± 2% of rated voltage
	Frequency fluctuation	Within ± 2% of rated voltage
Outside temp. range		-15 ~ 43 °C DB *1
Evaporating temp. range		-20 ~ 10°C DB (less than RH95%) *2
Frequency ON/OFF of comp.		Less than 6 times / hour
Time at pull down		More than 3°C / hour
Maximum length of connection piping		130m
Maximum height difference between indoor unit and outdoor units		10m (case that outdoor unit is lower than indoor unit) 35m (case that outdoor unit is higher than indoor unit) *3
Maximum refrigerant charge amount		(See ADDITIONAL REFR. CHARGE LABEL about additional refrigerant)

4D064918

NOTES

1. See operation limits and performance characteristics.
2. When the outside temp. is low, it lowers more than set temp. because of the unit protection.
3. Install the oil trap per 5m from outdoor unit.

LRMEQ5,6,8,10,12,15,20AY1(1)



4D064914

NOTES

1. "Range for continuous operation" shows possible range of continuous operation.
2. "Range for pull down operation" shows possible range of short-time operation.
   - Do not select the model in the range for pull down operation.
   - To be more than 3°C/hour that the temperature of indoor unit drops, do not open the door and do not enter the goods in pull down operation as possible.

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LRLEQ-AY1

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1 Features

- Low temperature applications: 5.4~15.1kW
- DC inverter controlled scroll compressors open the door to VRV technology for commercial refrigeration
- System solution for multi-compressor refrigeration systems
- R-410A refrigerant
- Very compact with small footprint and easy to install
- High energy efficiency and performance with DC inverter compressor
- Reliable factory tested packaged solution

2 Specifications

2-1 Electrical Specifications			LRLEQ5AY1	LRLEQ6AY1	LRLEQ8AY1	LRLEQ10AY1	LRLEQ12AY1	LRLEQ15AY1	LRLEQ20AY1
Power supply	Phase		3						
	Frequency	Hz	50						
	Voltage	V	380-415						

2-2 Technical Specifications				LRLEQ5AY1	LRLEQ6AY1	LRLEQ8AY1	LRLEQ10AY1	LRLEQ12AY1	LRLEQ15AY1	LRLEQ20AY1
Operating condition	Evaporating temperature	Min	°C	-45	-45	-45	-45	-45	-45	-45
		Max	°C	-20	-20	-20	-20	-20	-20	-20
	Outdoor temperature	Min	°C	-15	-15	-15	-15	-15	-15	-15
		Max	°C	43	43	43	43	43	43	43
Cooling capacity	Nom.		kW	5.4	6.3	8.0	9.4	10.3	13.6	15.1
Casing	Colour			Ivory white (5Y7,5/1)						
Dimensions	Unit	Height	mm	1,680						
		Width	mm	635	635	930	930	930	1,240	1,240
		Depth	mm	765	765	765	765	765	765	765
Heat exchanger	Type			Cross fin coil						
Compressor	Type			Hermetically sealed scroll type						
	Piston displacement		m³/h	10.04	13.85	19.68	23.36	25.27	30	35.8
	Speed		rpm	4,740	6,540	4,320	6,060	6,960	5,640	6,960
			rpm			2,900	2,900	2,900	2,900	2,900
			rpm						2,900	2,900
	Motor	Output	kW	2.3	3.2	2.1	3.0	3.4	2.8	3.4
		Output	kW			3.6	3.6	3.6	3.6	3.6
		Output	kW						3.6	3.6
	Starting Method			Direct on line (inverter driven)						
Fan	Type			Propeller						
	Motor	Output motor	kW	0.35	0.35	0.75	0.75	0.75	0.75	0.75
		Output motor	kW						0.75	0.75
	Air flow rate		m³/min	95	102	171	179	191	230	240
	Drive			Direct drive						
Piping connections	Liquid (OD)	50m or less		Ø 9.5 C1220T (Brazing connection)					Ø 12.7 C1220T (Brazing connection)	
		50~70m		Ø 12.7 C1220T (Brazing connection)					Ø 15.9 C1220T (Brazing connection)	
	Gas	25m or less		Ø 19.1 C1220T (Brazing connection)		Ø 25.4 C1220T (Brazing connection)			Ø 31.8 C1220T (Brazing connection)	
		25~70m		Ø 22.2 C1220T (Brazing connection)		Ø 28.6 C1220T (Brazing connection)			Ø 34.9 C1220T (Brazing connection)	
Weight	Unit		kg	170	170	255	255	255	355	355
Safety Devices				High pressure switch						
				Fan driver overload protector						
				Overcurrent relay						
				Inverter overload protector						
				Fusible plug						
Refrigerant	Name			R-410A						
	Charge volume		kg	5.2	5.2	7.9	7.9	7.9	11.5	11.5
	Control			Expansion valve (electronic type)						
Refrigerant Oil	Name			Daphne FVC68D						
	Charged Volume		l	1.7	1.7	1.7	1.7	1.7	1.7	1.7
			l	2.5	2.5	2.1	2.1	2.1	2.1	2.1
			l			3.0	3.0	3.0	2.1	2.1
			l						4.0	4.0
Standard accessories				Installation manual						
				Operation manual						
				Connection pipes						
				Cramps						
				Wiring materials						
				Caution label						
				Declaration of Conformity						
				Refrigerant label for F-gas regulation						
Notes				Nominal cooling capacities are based on: operating conditions of outside unit: Te= -35°C; outdoor temperature 32°C; Suction SH10°C						

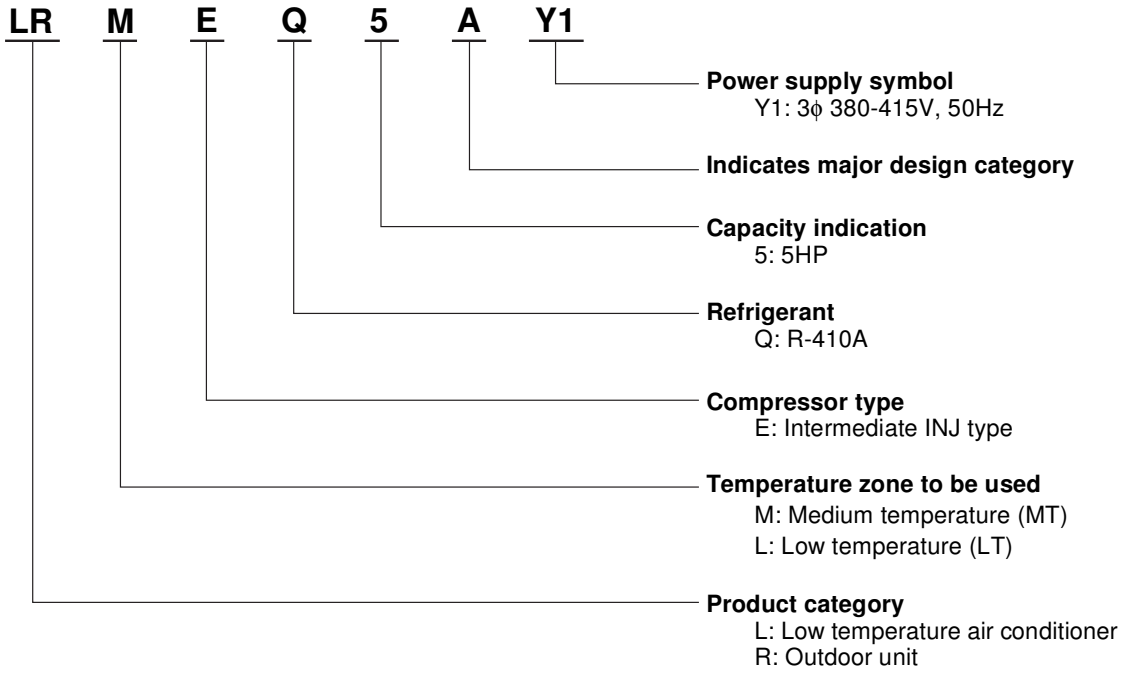
2 Specifications

2-3 Electrical Specifications			LRLEQ5AY1	LRLEQ6AY1	LRLEQ8AY1	LRLEQ10AY1	LRLEQ12AY1	LRLEQ15AY1	LRLEQ20AY1
Current - 50Hz	Maximum starting current (MSC)		-	-	74	75	75	84	84
	Rated load amps (RLA)		6.4	8.0	4.6+6.1	6.9+6.4	7.7+6.3	6.2+6.2+6.2	8.0+6.2+6.2
	Minimum Ssc value	kVa	EN61000-3-2: professional equipment		652	896	1,093	757	941
	Minimum circuit amps (MCA)	A	12.7	13.6	19.2	21.9	23.9	31.2	34.8
	Maximum fuse amps (MFA)	A	15	15	25	25	25	40	40
	Total overcurrent amps (TOCA)	A	15.6	15.6	31.5	31.5	31.5	48.3	48.3
	Full load amps (FLA)	A	0.4	0.4	0.9	0.9	0.9	0.7	0.7
		A						0.7	0.7
Current	Z max		Equipment complying with EN61000-3-3		0.27	0.27	0.27	0.24	0.24
Voltage range	Max	V	456	456	456	456	456	456	456
	Min	V	342	342	342	342	342	342	342
Notes			RLA is based on following conditions: outdoor temperature 32°CDB; suction SH 10°C; saturated temperature equivalent to suction pressure -10°C						
			TOCA means the total value of each OC set						
			MSC means maximum current during start-up of compressor						
			Voltage range : units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed range limits.						
			Maximum allowable voltage range variation between phases is 2%.						
			Select wire size based on the larger value of MCA or TOCA						
			MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker)						

3 Nomenclature

Nomenclature

■ Outdoor unit

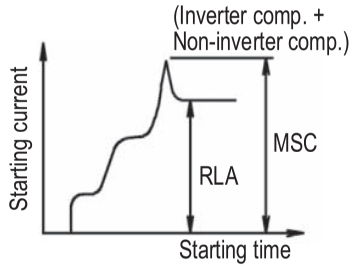


LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5,6,8,10,12,15,20AY1(E)

Model name	Units				Power supply			Comp.		OFM		Minimum Ssc value (kVA)	Z max (Ω)
	Hz	Volts	Min.	Max.	MCA	TOCA	MFA	MSC	RLA	kW	FLA		
LRMEQ5AY1(E)	50	380	342	456	12.7	15.6	15	—	7.4	0.35	0.4	EN61000-3-2: professional equipment	Equipment complying with EN61000-3-3
		400						—	7.0				
		415						—	6.8				
LRMEQ6AY1(E)	50	380	342	456	13.6	15.6	15	—	9.4	0.35	0.4	EN61000-3-2: professional equipment	Equipment complying with EN61000-3-3
		400						—	8.9				
		415						—	8.6				
LRMEQ8AY1(E)	50	380	342	456	19.2	31.5	25	78	5.5+7.2	0.75	0.9	652	0.27
		400						74	5.2+6.8				
		415						72	5.1+6.7				
LRMEQ10AY1(E)	50	380	342	456	21.9	31.5	25	79	7.9+7.3	0.75	0.9	896	0.27
		400						75	7.5+6.9				
		415						73	7.3+6.7				
LRMEQ12AY1(E)	50	380	342	456	23.9	31.5	25	79	10.0+8.1	0.75	0.9	1093	0.27
		400						75	9.5+7.7				
		415						73	9.3+7.4				
LRMEQ15AY1(E)	50	380	342	456	31.2	48.3	40	89	7.7+7.5x2	0.75x2	0.7x2	757	0.24
		400						84	7.4+7.1x2				
		415						81	7.0+6.9x2				
LRMEQ20AY1(E)	50	380	342	456	34.8	48.3	40	89	10.7+8.3x2	0.75x2	0.7x2	941	0.24
		400						84	10.2+7.8x2				
		415						81	9.8+7.6x2				
LRLEQ5AY1(E)	50	380	342	456	12.7	15.6	15	—	6.7	0.35	0.4	EN61000-3-2: professional equipment	Equipment complying with EN61000-3-3
		400						—	6.4				
		415						—	6.2				
LRLEQ6AY1(E)	50	380	342	456	13.6	15.6	15	—	8.4	0.35	0.4	EN61000-3-2: professional equipment	Equipment complying with EN61000-3-3
		400						—	8.0				
		415						—	7.7				
LRLEQ8AY1(E)	50	380	342	456	19.2	31.5	25	78	4.9+6.4	0.75	0.9	652	0.27
		400						74	4.6+6.1				
		415						72	4.5+5.9				
LRLEQ10AY1(E)	50	380	342	456	21.9	31.5	25	79	7.2+6.8	0.75	0.9	896	0.27
		400						75	6.9+6.4				
		415						73	6.7+6.2				
LRLEQ12AY1(E)	50	380	342	456	23.9	31.5	25	79	8.1+6.6	0.75	0.9	1093	0.27
		400						75	7.7+6.3				
		415						73	7.5+6.1				
LRLEQ15AY1(E)	50	380	342	456	31.2	48.3	40	89	6.5+6.6x2	0.75x2	0.7x2	757	0.24
		400						84	6.2+6.2x2				
		415						81	5.9+6.0x2				
LRLEQ20AY1(E)	50	380	342	456	34.8	48.3	40	89	8.3+6.6x2	0.75x2	0.7x2	941	0.24
		400						84	8.0+6.2x2				
		415						81	7.6+6.0x2				

SYMBOLS

MCA : Min. Circuit Amps. (A)
TOCA : Total Over-current Amps. (A)
MFA : Max. Fuse Amps. (A)
MSC : Max. Starting current
RLA : Rated Load Amps. (A)
OFM : Outdoor Fan Motor
FLA : Full Load Amps. (A)
kW : Rated Motor Output (kW)



The relationship between the starting time and the starting current

NOTES

1. RLA is based on the following conditions,
   - Outdoor temperature, 32°C DB
   - Suction SH, 10°C
   - Saturated temperature equivalent to suction pressure, -10°C
2. TOCA means the total value of each OC set.
3. MSC means the Max. current during the starting of compressor.
4. Voltage range
   Units are suitable for use on electrical systems where voltage supplied to unit terminal is not below or above listed range limits.
5. Maximum allowable voltage variation between phases is 2%.
6. Select wire size based on the larger value of MCA or TOCA.
7. MFA is used to select the circuit breaker and the ground fault circuit interrupter (earth leakage circuit breaker).

5 Options

LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5,6,8,10,12,15,20AY1(E)

Series	Condensing unit for refrigeration system					
Model / Option name	LRLEQ5AY1, LRMEQ5AY1 LRLEQ6AY1, LRMEQ6AY1	LRLEQ5AY1, LRMEQ5AY1 LRLEQ6AY1, LRMEQ6AY1	LRLEQ8AY1, LRMEQ8AY1 LRLEQ10AY1, LRMEQ10AY1 LRLEQ12AY1, LRMEQ12AY1	LRLEQ8AY1, LRMEQ8AY1 LRLEQ10AY1, LRMEQ10AY1 LRLEQ12AY1, LRMEQ12AY1	LRLEQ15AY1, LRMEQ15AY1 LRLEQ20AY1, LRMEQ20AY1	LRLEQ15AY1, LRMEQ15AY1 LRLEQ20AY1, LRMEQ20AY1
Central drain pan kit	KWC26C160	♦ KWC26C160E	KWC26C280	♦ KWC26C280E	KWC26C450	♦KWC26C450E

3D065082

NOTE

1. ♦ : Order products

6 Capacity tables

6 - 1 Cooling capacity tables

LRLEQ5-6AY1

Cooling capacity table

MODEL	Amb. Temp.	Suction pressure equivalent saturation temperature °C											
		-45		-40		-35		-30		-25		-20	
		Q	W	Q	W	Q	W	Q	W	Q	W	Q	W
	°C DB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
LRLEQ5AY1	20	2.67	3.24	4.74	3.39	6.18	3.50	7.46	3.57	8.96	3.63	10.4	3.66
	27	2.53	3.80	4.43	3.92	5.74	4.05	6.94	4.12	8.37	4.20	9.74	4.26
	32	2.42	4.33	4.18	4.46	5.40	4.60	6.54	4.67	7.91	4.75	9.24	4.85
	38	2.25	5.20	3.82	5.34	4.91	5.49	5.96	5.58	7.06	5.57	8.56	5.64
	43	2.08	5.63	3.49	5.76	4.48	5.93	5.51	6.06	6.46	6.21	7.82	6.37
LRLEQ6AY1	20	3.36	4.23	5.89	4.33	7.34	4.40	9.30	4.43	11.1	4.45	12.7	4.49
	27	3.14	4.88	5.44	5.03	6.76	5.13	8.59	5.20	10.3	5.28	11.9	5.38
	32	2.96	5.39	5.08	5.57	6.30	5.70	8.03	5.79	9.70	5.90	11.2	6.05
	38	2.68	6.18	4.53	6.40	5.62	6.56	7.22	6.69	8.55	6.71	10.3	6.86
	43	2.43	6.53	4.08	6.75	5.06	6.93	6.59	7.14	7.76	7.23	9.36	7.33

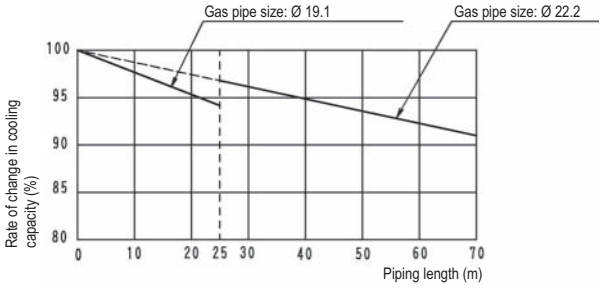
Q: Cooling capacity
W: Power consumption

Calculation method of cooling capacity

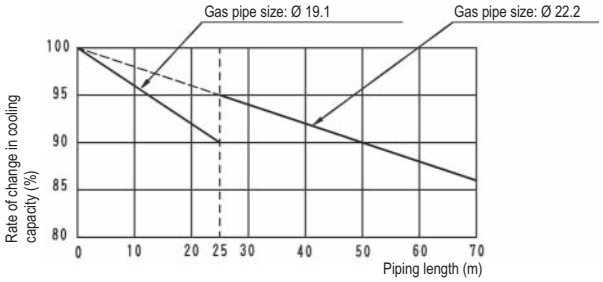
Cooling capacity = Reading value from cooling capacity table x Rate of change in cooling capacity by piping length

■ Rate of change in cooling capacity by piping length

LRLEQ5AY1



LRLEQ6AY1



NOTES

1. ☐ is specified point.
2. The condition of characteristics of the table: 10°C (suction SH)
3. Consider decrease of capacity depended on frosting, and time of defrosting, please select larger model (about 15%).

3D065030

LRLEQ8-10-12AY1(E)

Cooling capacity table

MODEL	Amb. Temp.	Suction pressure equivalent saturation temperature °C											
		-45		-40		-35		-30		-25		-20	
		Q	W	Q	W	Q	W	Q	W	Q	W	Q	W
	°C DB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
LRLEQ8AY1	20	4.27	5.42	7.46	5.56	9.24	5.72	11.7	5.79	14.1	5.86	16.3	5.91
	27	4.01	6.38	6.92	6.56	8.55	6.77	10.9	6.90	13.1	7.03	15.3	7.14
	32	3.80	7.15	6.49	7.35	8.00	7.60	10.2	7.76	12.4	7.93	14.4	8.10
	38	3.48	8.35	5.85	8.59	7.19	8.88	9.23	9.09	11.0	9.14	13.3	9.29
	43	3.17	9.04	5.27	9.29	6.48	9.61	8.44	9.91	9.95	10.3	12.0	10.6
LRLEQ10AY1	20	5.01	6.54	8.87	6.71	11.0	6.88	14.0	6.96	16.8	7.03	19.1	7.07
	27	4.69	7.54	8.19	7.78	10.1	8.03	12.9	8.18	15.6	8.34	17.9	8.46
	32	4.41	8.31	7.64	8.59	9.40	8.90	12.1	9.10	14.7	9.32	16.9	9.52
	38	3.99	9.49	6.81	9.84	8.39	10.2	10.9	10.5	12.9	10.6	15.5	10.8
	43	3.61	10.0	6.12	10.4	7.54	10.8	9.91	11.2	11.7	11.4	14.0	11.8
LRLEQ12AY1	20	5.46	7.25	9.73	7.46	12.1	7.59	15.4	7.72	18.5	7.85	21.4	8.01
	27	5.08	8.28	8.95	8.58	11.1	8.80	14.2	8.97	17.2	9.18	20.0	9.57
	32	4.76	9.07	8.32	9.42	10.3	9.70	13.2	9.93	16.1	10.2	18.8	10.7
	38	4.28	10.3	7.37	10.7	9.14	11.1	11.9	11.4	14.2	11.6	17.3	12.1
	43	3.85	10.8	6.59	11.2	8.18	11.6	10.8	12.1	12.8	12.5	15.6	13.0

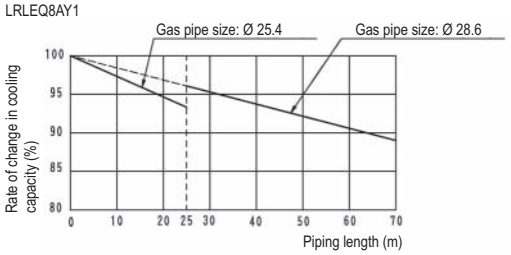
Q: Cooling capacity
W: Power consumption

Calculation method of cooling capacity

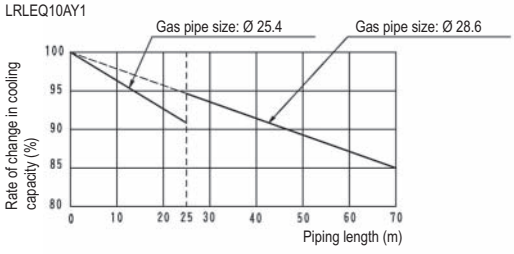
Cooling capacity = Reading value from cooling capacity table x Rate of change in cooling capacity by piping length

■ Rate of change in cooling capacity by piping length

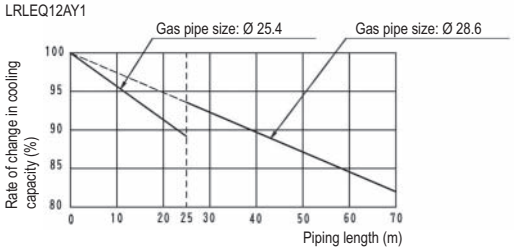
LRLEQ8AY1



LRLEQ10AY1



LRLEQ12AY1



NOTES

1. ☐ is specified point.
2. The condition of characteristics of the table: 10°C (suction SH)
3. Consider decrease of capacity depended on frosting, and time of defrosting, please select larger model (about 15%).

3D065034

6 Capacity tables

6 - 1 Cooling capacity tables

LRLEQ15-20AY1(E)

Cooling capacity table

MODEL	Amb. Temp.	Suction pressure equivalent saturation temperature °C											
		-45		-40		-35		-30		-25		-20	
		Q	W	Q	W	Q	W	Q	W	Q	W	Q	W
	°C DB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
LRLEQ15AY1	20	6.94	9.37	12.7	9.61	15.9	9.84	20.4	9.97	24.7	10.1	28.1	10.2
	27	6.47	10.8	11.7	11.1	14.6	11.5	18.9	11.7	22.9	12.0	26.2	12.3
	32	6.09	11.9	10.9	12.3	13.6	12.7	17.6	13.0	21.5	13.3	24.7	13.8
	38	5.50	13.6	9.69	14.0	12.1	14.6	15.8	15.0	18.9	15.1	22.7	15.6
	43	4.97	14.3	8.69	14.8	10.9	15.4	14.4	16.0	17.2	16.4	20.5	17.1
LRLEQ20AY1	20	7.63	10.4	14.1	10.7	17.7	10.9	22.8	11.0	27.6	11.3	32.3	11.6
	27	7.09	11.9	12.9	12.3	16.3	12.6	21.0	12.9	25.6	13.3	30.1	13.9
	32	6.65	13.0	12.0	13.4	15.1	13.9	19.6	14.3	24.0	14.6	28.4	15.8
	38	5.96	14.7	10.6	15.2	13.4	15.8	17.5	16.3	21.1	16.8	26.0	17.5
	43	5.36	15.4	9.48	16.0	12.0	16.6	15.9	17.3	19.0	18.0	23.5	19.1

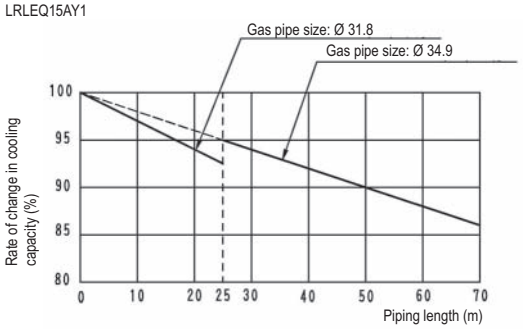
Q: Cooling capacity
W: Power consumption

Calculation method of cooling capacity

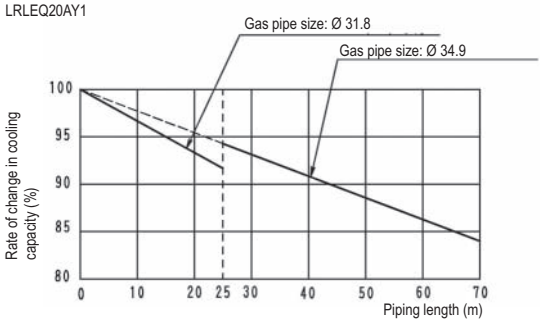
Cooling capacity = Reading value from cooling capacity table x Rate of change in cooling capacity by piping length

■ Rate of change in cooling capacity by piping length

LRLEQ15AY1



LRLEQ20AY1



NOTES

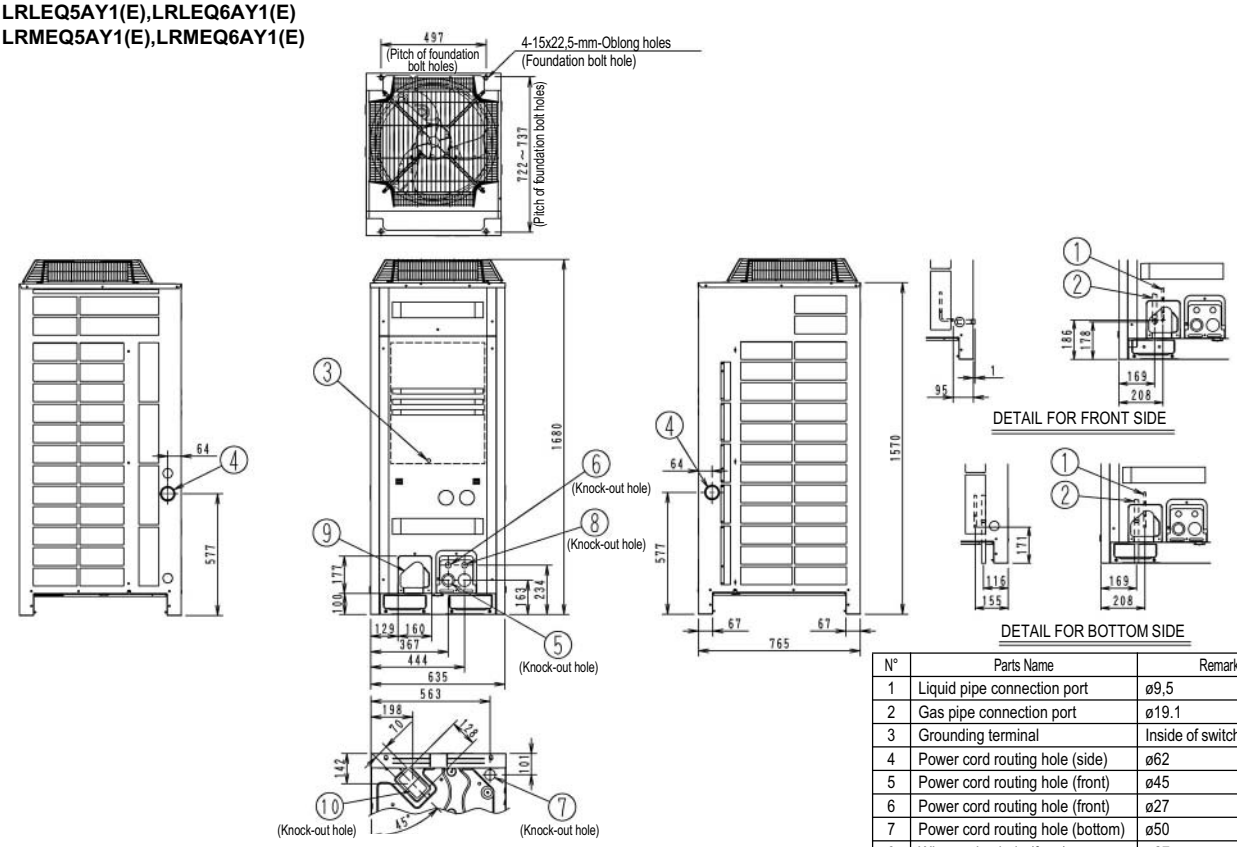
1. ▭ is specified point.
2. The condition of characteristics of the table: 10°C (suction SH).
3. Consider decrease of capacity depended on frosting, and time of defrosting, please select larger model (about 15%).

3D065035

7 Dimensional drawing & centre of gravity

7 - 1 Dimensional drawing

LRLEQ5AY1(E),LRLEQ6AY1(E)
LRMEQ5AY1(E),LRMEQ6AY1(E)



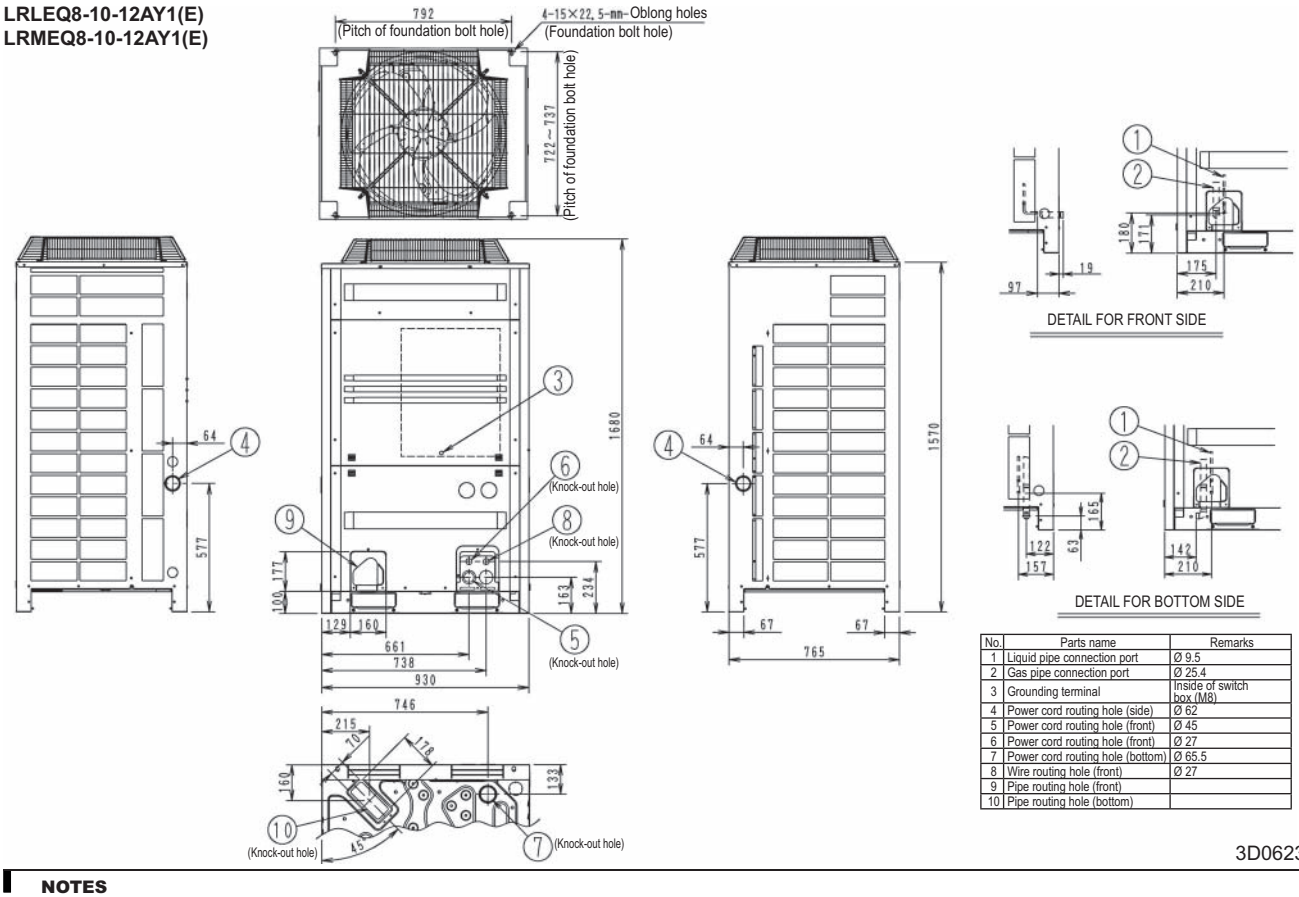
N°	Parts Name	Remarks
1	Liquid pipe connection port	ø9,5
2	Gas pipe connection port	ø19.1
3	Grounding terminal	Inside of switch box (M8)
4	Power cord routing hole (side)	ø62
5	Power cord routing hole (front)	ø45
6	Power cord routing hole (front)	ø27
7	Power cord routing hole (bottom)	ø50
8	Wire routing hole (front)	ø27
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	

NOTE

1 Detail for front side and detail for bottom side indicate the dimensions after fixing the attached piping

3D064898

LRLEQ8-10-12AY1(E)
LRMEQ8-10-12AY1(E)



No.	Parts name	Remarks
1	Liquid pipe connection port	Ø 9.5
2	Gas pipe connection port	Ø 25.4
3	Grounding terminal	Inside of switch box (M8)
4	Power cord routing hole (side)	Ø 62
5	Power cord routing hole (front)	Ø 45
6	Power cord routing hole (front)	Ø 27
7	Power cord routing hole (bottom)	Ø 65.5
8	Wire routing hole (front)	Ø 27
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	

3D062332

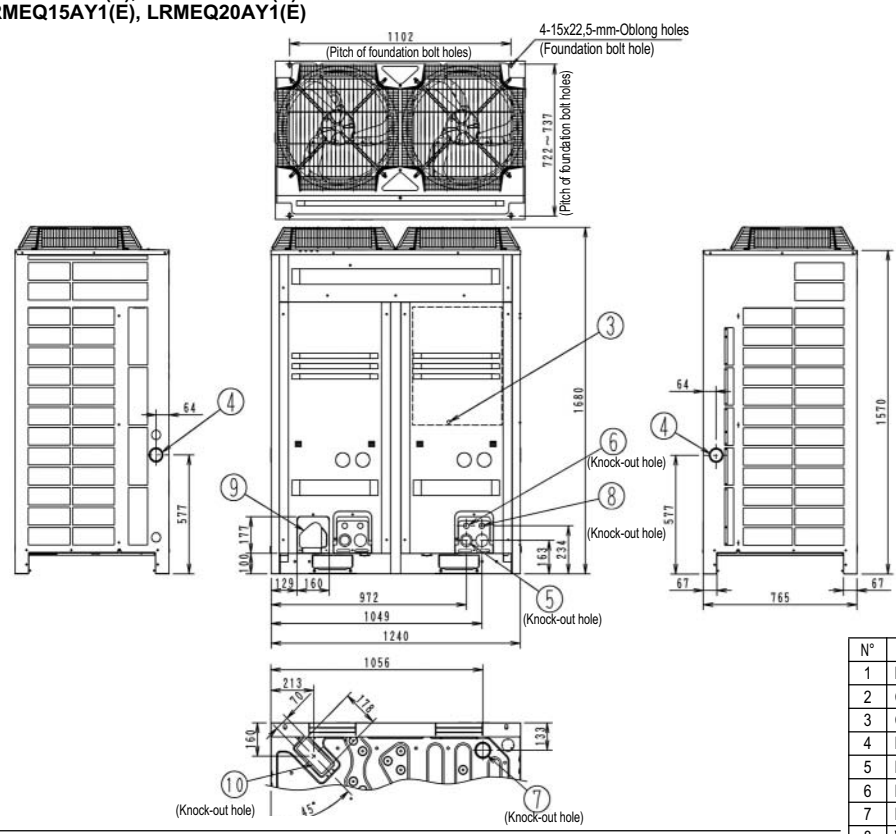
NOTES

1. Detail for front side and detail for bottom side indicate the dimensions after fixing the attached piping.

7 Dimensional drawing & centre of gravity

7 - 1 Dimensional drawing

LRLEQ15AY1(E), LRLEQ20AY1(E)
LRMEQ15AY1(E), LRMEQ20AY1(E)



N°	Parts Name	Remarks
1	Liquid pipe connection port	ø12.7
2	Gas pipe connection port	ø31.8
3	Grounding terminal	Inside of switch box (M8)
4	Power cord routing hole (side)	ø62
5	Power cord routing hole (front)	ø45
6	Power cord routing hole (front)	ø27
7	Power cord routing hole (bottom)	ø65.5
8	Wire routing hole (front)	ø27
9	Pipe routing hole (front)	
10	Pipe routing hole (bottom)	

3D064900

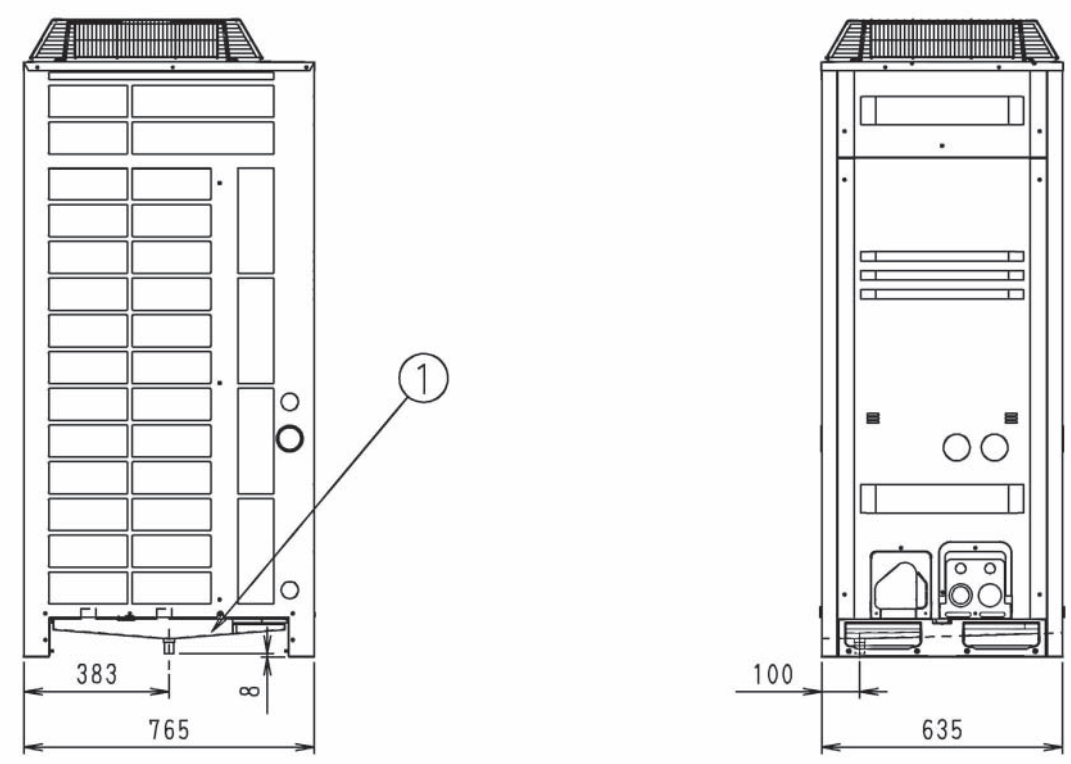
NOTE

1 Detail for front side and detail for bottom side indicate the dimensions after fixing the attached piping

7 Dimensional drawing & centre of gravity

7 - 1 Dimensional drawing

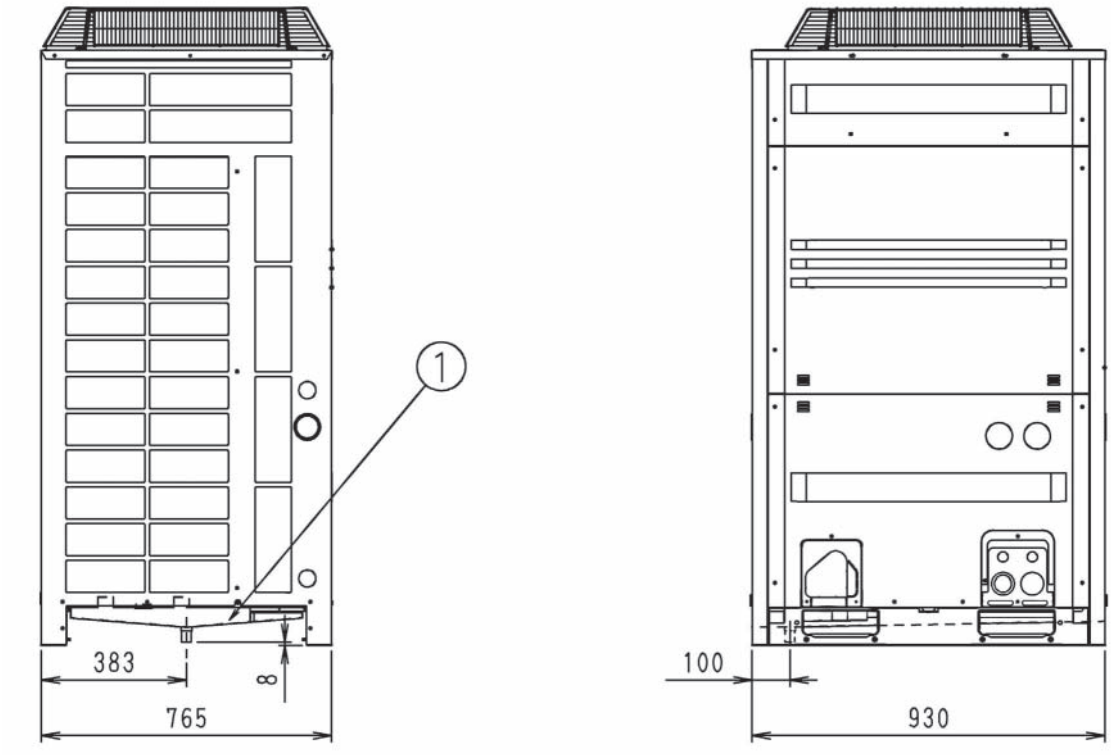
LRLEQ5-6AY1(E)



No.	Parts name	Remark
1	Central drain pan kit	KWC26C160(E)

3D065353

LRMEQ8-10-12AY1(E)
LRLEQ8-10-12AY1(E)



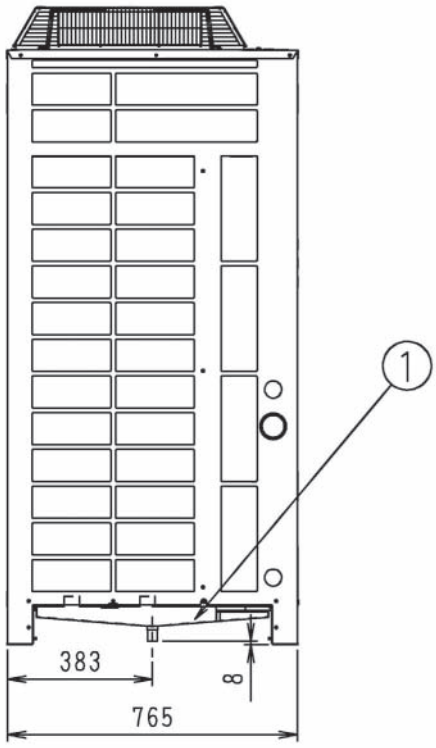
No.	Parts name	Remark
1	Central drain pan kit	KWC26C280(E)

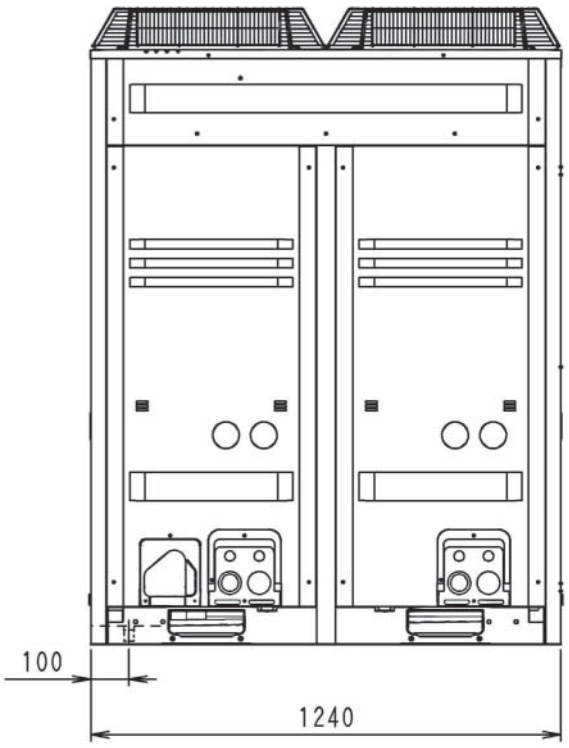
3D065354

7 Dimensional drawing & centre of gravity

7 - 1 Dimensional drawing

LRMEQ15-20AY1(E)
LRLEQ15-20AY1(E)





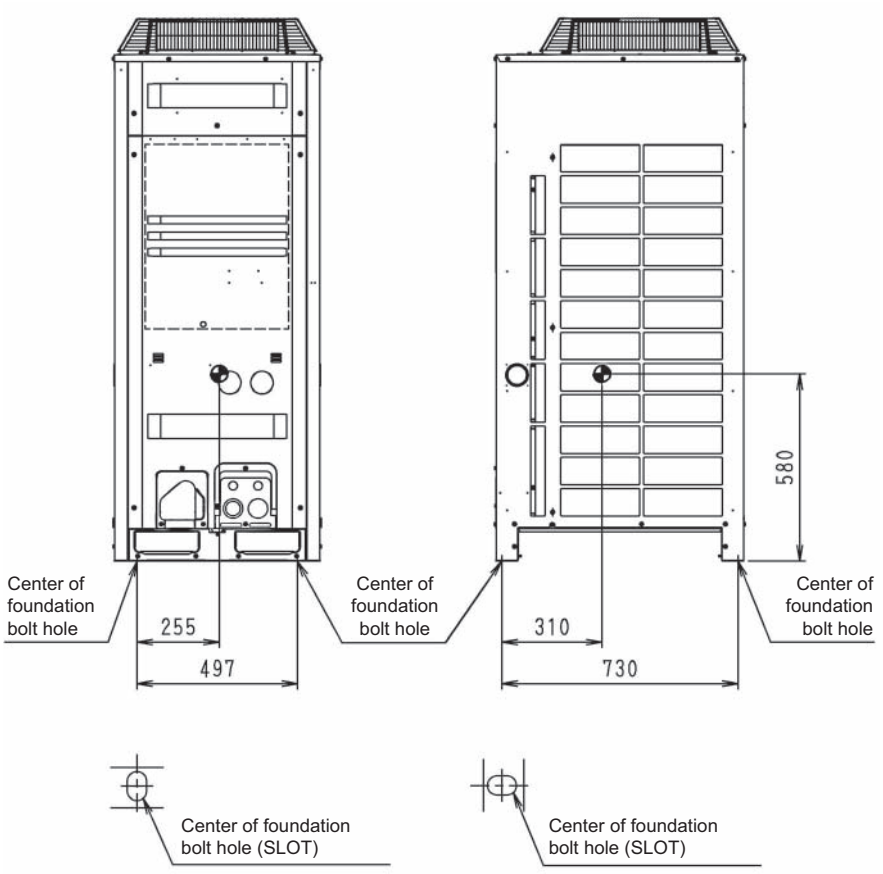
No.	Parts name	Remark
1	Central drain pan kit	KWC26C450(E)

3D065355

7 Dimensional drawing & centre of gravity

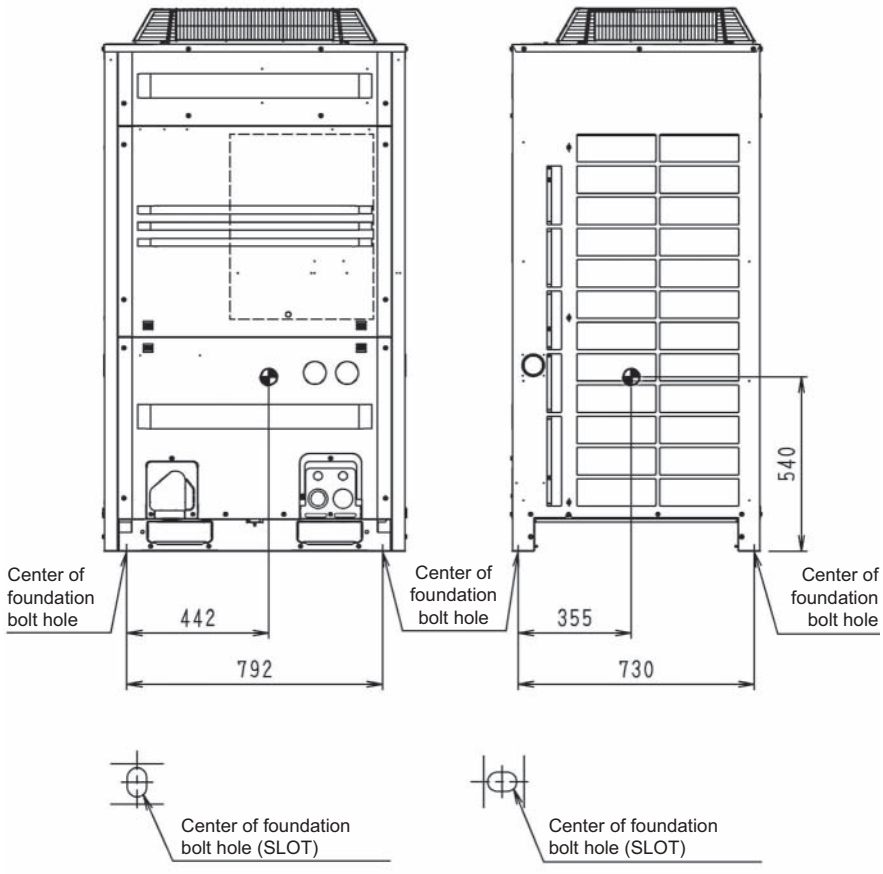
7 - 2 Centre of gravity

LRMEQ5,6AY1(E)
LRLEQ5,6AY1(E)



4D065026

LRMEQ8,10,12AY1(E)
LRLEQ8,10,12AY1(E)

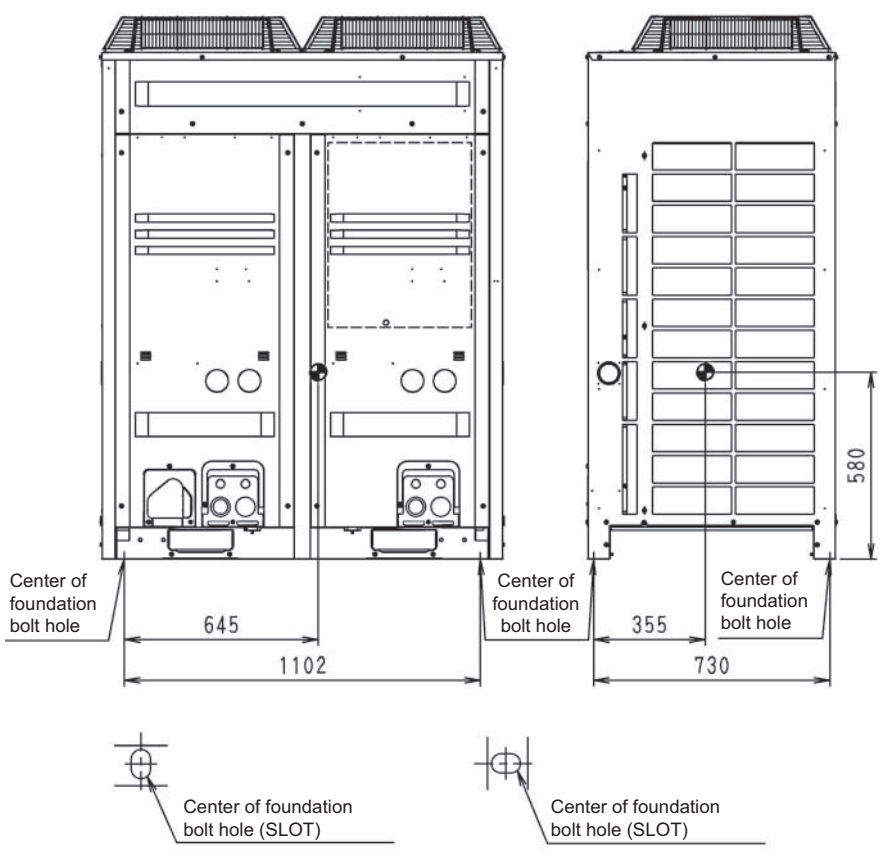


4D065027

7 Dimensional drawing & centre of gravity

7 - 2 Centre of gravity

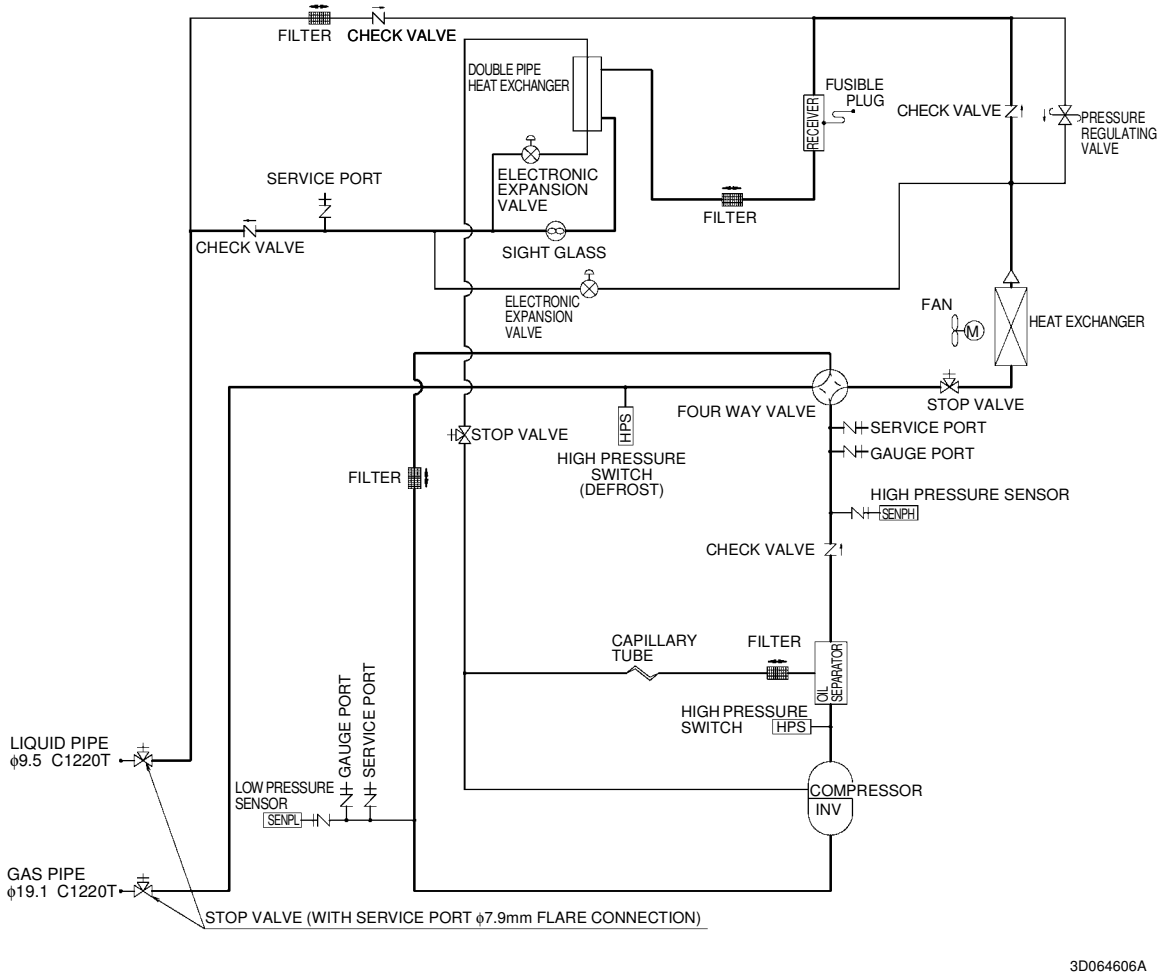
LRMEQ15,20AY1(E)
LRLEQ15,20AY1(E)



4D065028

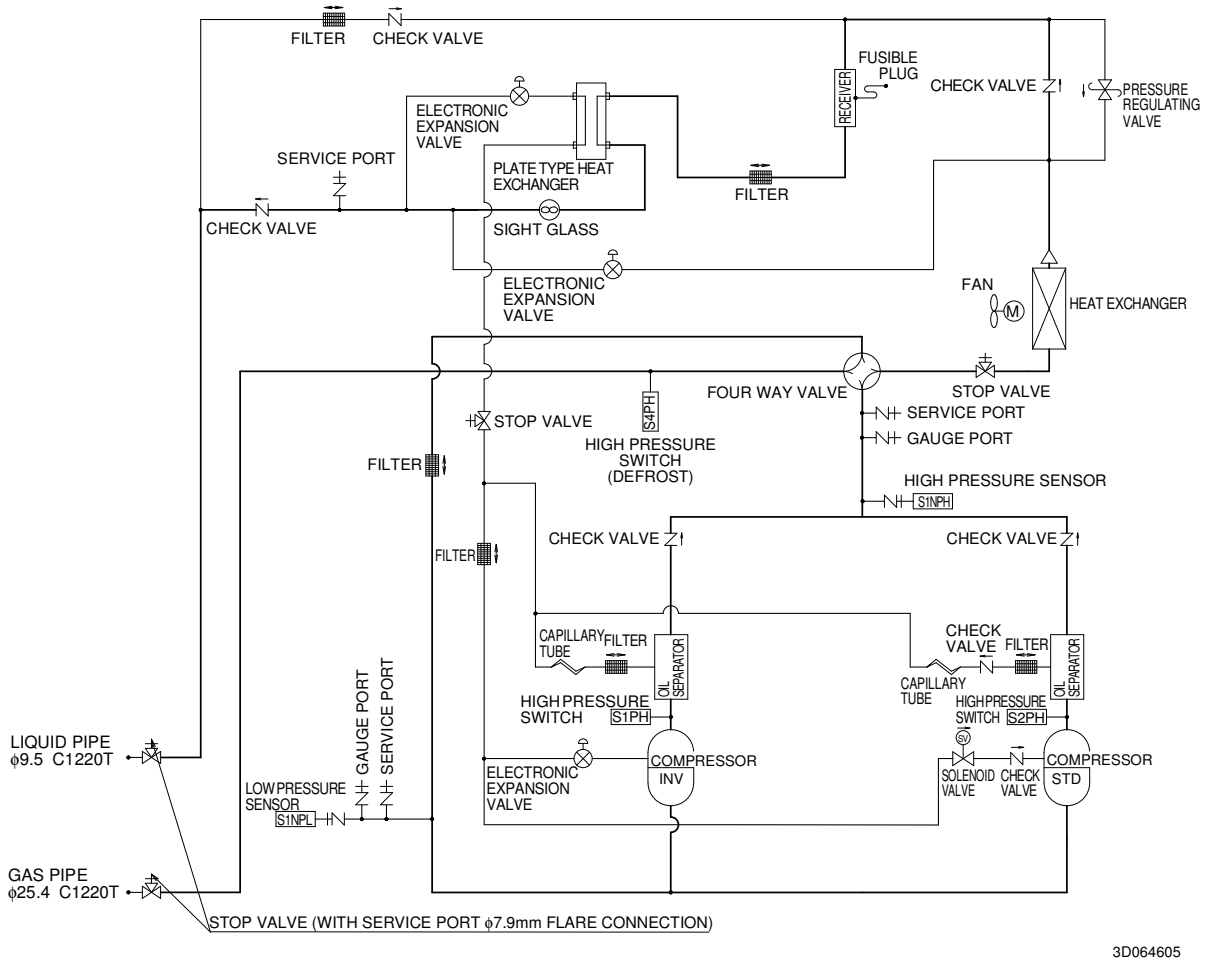
8 Piping diagram

LRLEQ5A, 6AY1(E)
LRMEQ5A, 6AY1(E)



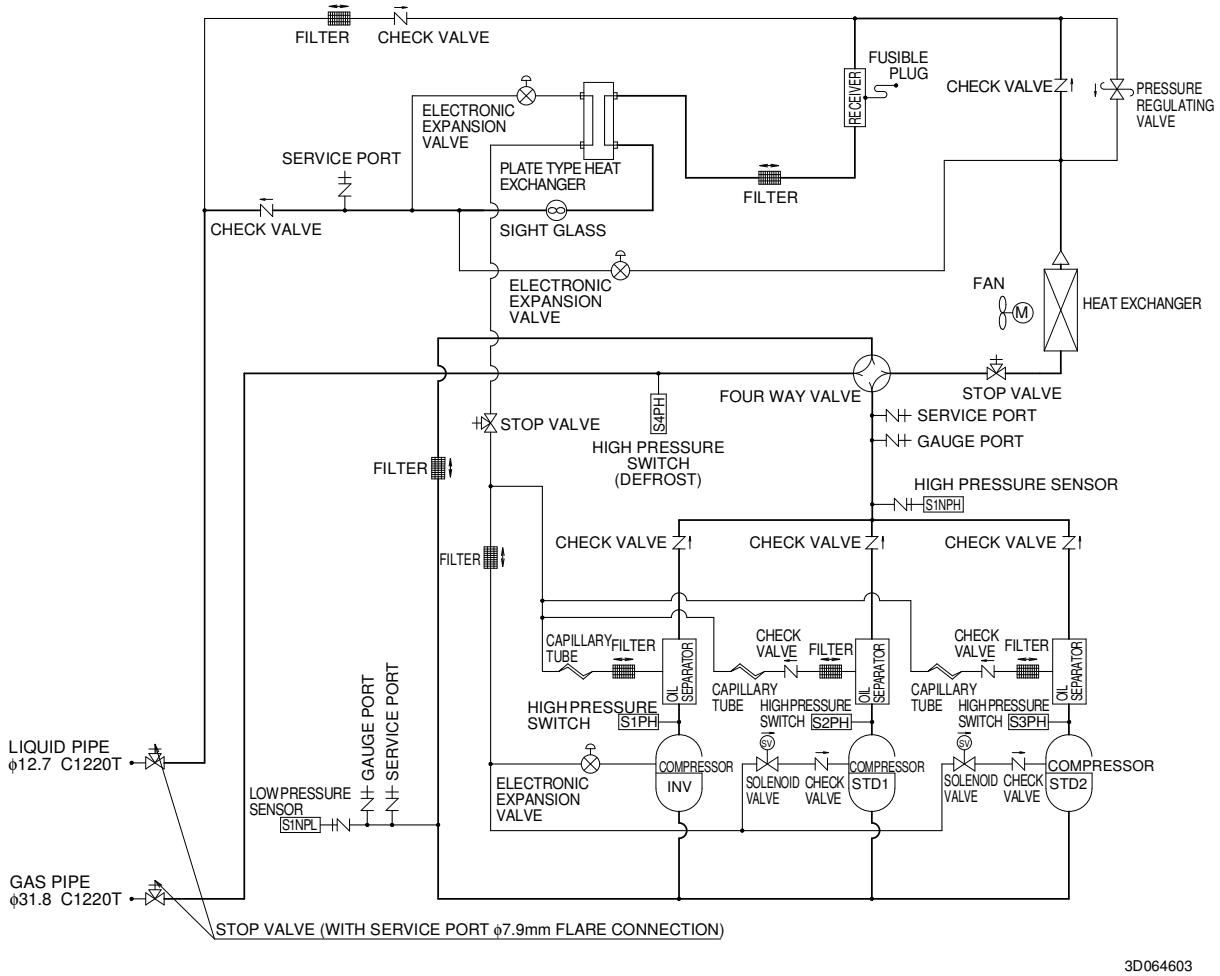
8 Piping diagram

LRLEQ8A, 10A, 12AY1(E)
LRMEQ8A, 10A, 12AY1(E)



8 Piping diagram

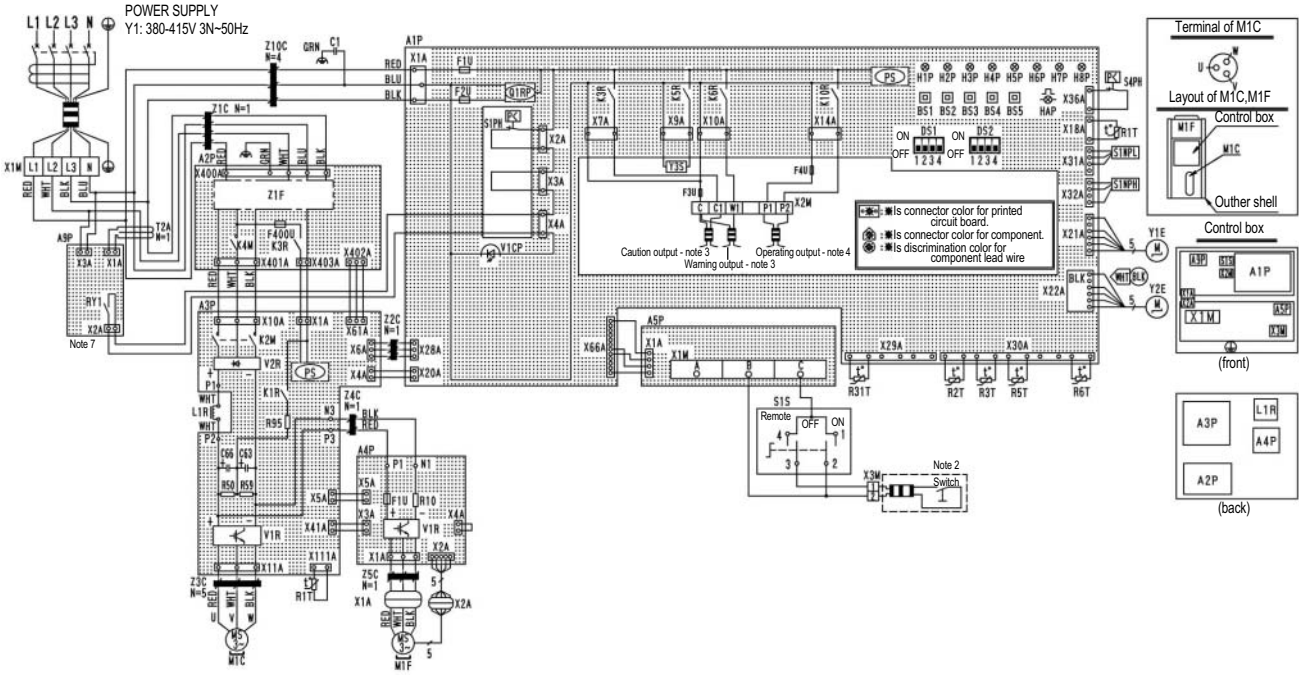
LRLEQ15A, 20AY1(E)
LRMEQ15A, 20AY1(E)



9 Wiring diagram

9 - 1 Wiring diagram

LRLEQ5AY1(E), LRLEQ6AY1(E)
LRMEQ5AY1(E), LRMEQ6AY1(E)



A1P	Printed circuit board (Main)	K3R	Magnetic relay (Caution output)	S1NPH	Pressure sensor (High)
A2P	Printed circuit board (Noise filter)	K5R	Magnetic relay (Y3S)	S1NPL	Pressure sensor (Low)
A3P	Printed circuit board (INV)	K6R	Magnetic relay (Warning output)	S1PH	Pressure switch (High)
A4P	Printed circuit board (Fan)	K10R	Magnetic relay (Operating output)	S1S	Operation switch (Remote / Off / On)
A5P	Printed circuit board (ABC I/P)	L1R	Reactor (A3P)	S4PH	Pressure switch (High)
A9P	Printed circuit board (Earth leakage detector)	M1C	Motor (Compressor)	T2A	Current sensor (A9P)
BS1~5	Push button switch (Mode, set, return, test, reset)	M1F	Motor (Fan)	V1CP	Safety devices input
		PS	Switching power supply (A1P, A3P)	V1R	Power module (A3P, A4P)
C1	Capacitor	Q1RP	Phase reversal detect circuit	V2R	Diode bridge (A3P)
C63, C66	Capacitor (A3P)	R10	Resistor (Current sensor) (A4P)	X1A, X2A	Connector (M1F)
DS1, DS2	Dip switch (A1P)	R50, R59	Resistor (A3P)	X1M	Terminal strip (Power supply)
F1U	Fuse (8A, DC650V) (A4P)	R95	Resistor (Current limiting)	X1M	Terminal strip (Operation) (A5P)
F1U, F2U	Fuse (T, 3.15A, 250V) (A1P)	R1T	Thermistor (Air) (A1P)	X2M	Terminal strip
F3U, F4U	Fuse (T, 1.0A, 250V)	R1T	Thermistor (Fin) (A3P)	X3M	Terminal strip (Remote switch)
F400U	Fuse (T, 6.3A, 250V) (A2P)	R2T	Thermistor (Suction)	Y1E	Electronic expansion valve (Main)
H1P~8P	Pilotlamp (Service monitor - Orange) [H2P] Malfunction detection --- Light up	R31T	Thermistor (M1C discharge)	Y2E	Electronic expansion valve (Gas)
		R3T	Thermistor (Heat exc. deicer)	Y3S	Solenoid valve (4 way valve)
HAP	Pilot lamp (service monitor-green)	R5T	Thermistor (Heat ex. of subcool outlet)	Z1C~5C, Z10C	Noise filter (Ferrite core)
K1R, K3R	Magnetic relay	R6T	Thermistor (Heat ex. of subcool inlet)	Z1F	Noise filter (With surge absorber) (A2P)
K2M, K4M	Magnetic contactor (M1C)	RY1	Magnetic relay (A9P)		

: Terminal strip
: Connector
: Terminal
: Field wiring
: Protective earth (screw)

Colors: RED: Red, BLK: Black, WHT: White, BLU: Blue, GRN: Green

3D059917-1C

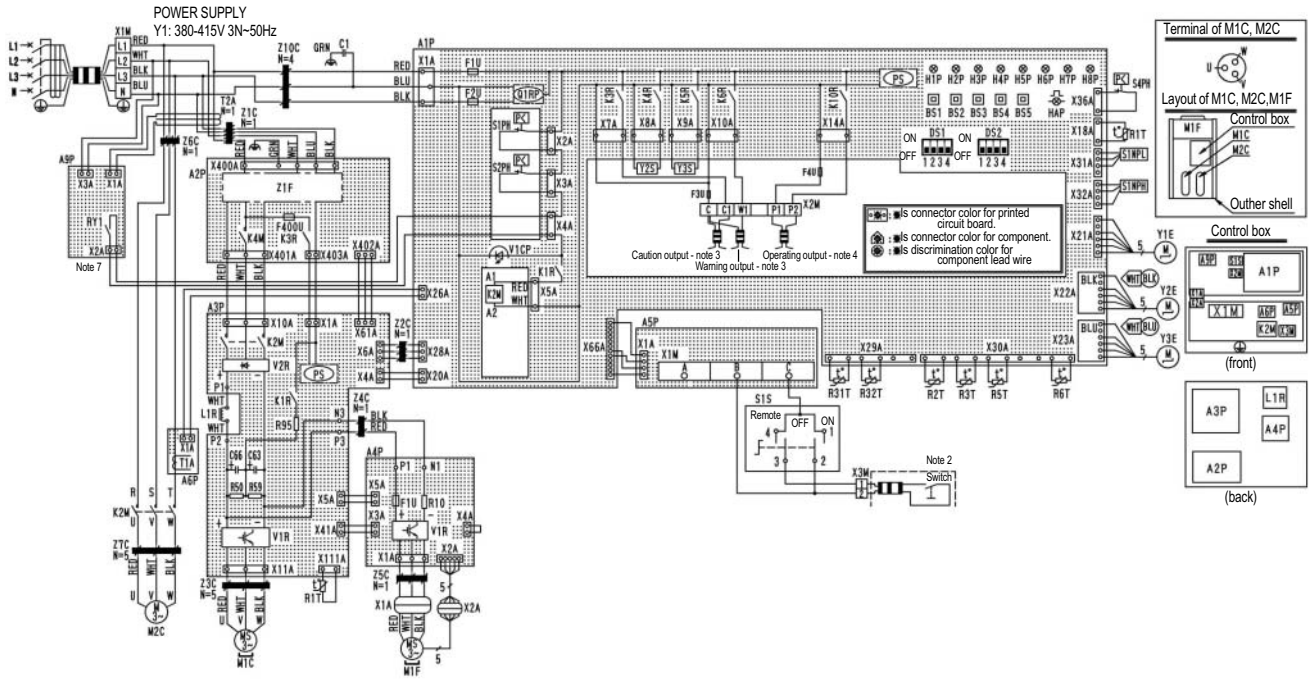
NOTES

1 This wiring diagram is applied only to the outdoor unit.
2 At the thime of factory shipment, setting of “on” or “remote”, the point of contact of the input must use the one for a slight current.
(For the remote switch, use non-voltage contact for microcurrent (not more than 1mA DC12v))
3 Be noted that the capacity of contact is AC220~240V, 0.5A (Total of caution output, warning output)
4 Be noted that the capacity of contact is AC220~240V, 0.5A (Operating output)
5 How to use BS1~5 and DS1 and DS2 switch. Refer to “sevice precaution” label on EL. Compo. Box cover.
6 When operating, don’t shortcircuit the protection device (S1PH).
7 RY1 point contact is open before turning on power supply.
Refer to technical guide for the operation timing diagram.

9 Wiring diagram

9 - 1 Wiring diagram

LRLEQ8AY1(E), LRLEQ10AY1(E), LRLEQ12AY1(E), LRMEQ8AY1(E), LRMEQ10AY1(E), LRMEQ12AY1(E)



A1P	Printed circuit board (Main)	K1R	Magnetic relay (K2M)	S1NPH	Pressure sensor (High)
A2P	Printed circuit board (Noise filter)	K3R	Magnetic relay (Caution output)	S1NPL	Pressure sensor (Low)
A3P	Printed circuit board (INV)	K4R	Magnetic relay (Y2S)	S1PH, S2PH	Pressure switch (High)
A4P	Printed circuit board (Fan)	K5R	Magnetic relay (Y3S)	S1S	Operation switch (Remote / Off / On)
A5P	Printed circuit board (ABC I/P)	K6R	Magnetic relay (Warning output)	S4PH	Pressure switch (High)
A6P	Printed circuit board (Current sensor)	K10R	Magnetic relay (Operating output)	T1A	Current sensor (A6P)
A9P	Printed circuit board (Earth leakage detector)	L1R	Reactor (A3P)	T2A	Current sensor (A9P)
BS1~5	Push button switch (Mode, set, return, test, reset)	M1C,M2C	Motor (Compressor)	V1CP	Safety devices input
		M1F	Motor (Fan)	V1R	Power module (A3P, A4P)
C1	Capacitor	PS	Switching power supply (A1P, A3P)	V2R	Diode bridge (A3P)
C63, C66	Capacitor (A3P)	Q1RP	Phase reversal detect circuit	X1A, X2A	Connector (M1F)
DS1, DS2	Dip switch (A1P)	R10	Resistor (Current sensor) (A4P)	X1M	Terminal strip (Power supply)
F1U	Fuse (8A, DC650V) (A4P)	R50, R59	Resistor (A3P)	X1M	Terminal strip (Operation) (A5P)
F1U, F2U	Fuse (T, 3.15A, 250V) (A1P)	R95	Resistor (Current limiting)	X2M	Terminal strip
F3U, F4U	Fuse (T, 1.0A, 250V)	R1T	Thermistor (Air) (A1P)	X3M	Terminal strip (Remote switch)
F400U	Fuse (T, 6.3A, 250V) (A2P)	R1T	Thermistor (Fin) A3P)	Y1E	Electronic expansion valve (Main)
H1P~8P	Pilotlamp (Service monitor - Orange [H2P] Malfunction detection --- Light up	R2T	Thermistor (Suction)	Y2E	Electronic expansion valve (Gas)
		R31T, R32T	Thermistor (M1C, M2C discharge)	Y3E	Electronic expansion valve (M1C)
HAP	Pilot lamp (service monitor-green)	R3T	Thermistor (Heat exc. deicer)	Y2S	Solenoid valve (M2C)
K1R, K3R	Magnetic relay	R5T	Thermistor (Heat ex. of subcool outlet)	Y3S	Solenoid valve (4 way valve)
K2M, K4M	Magnetic contactor (M1C)	R6T	Thermistor (Heat ex. of subcool inlet)	Z1C~7C, Z10C	Noise filter (Ferrite core)
K2M	Magnetic contactor (M2C)	RY1	Magnetic relay (A9P)	Z1F	Noise filter (With surge absorber) (A2P)

: Terminal strip
: Connector
: Terminal
: Field wiring
: Protective earth (screw)

Colors: RED: Red, BLK: Black, WHT: White, BLU: Blue, GRN: Green

3D059918-1C

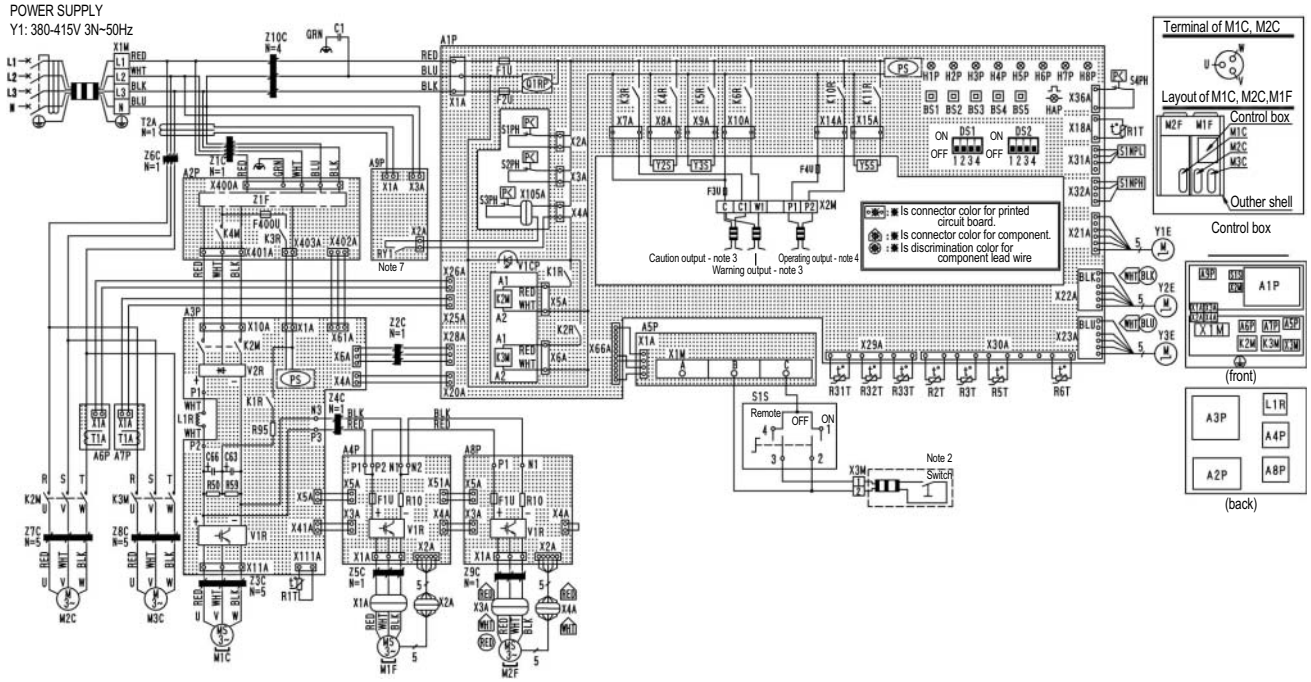
NOTES

1 This wiring diagram is applied only to the outdoor unit.
2 At the thime of factory shipment, setting of “off”. When operating, setting “on” or “remote”.
The point of contact of the input must use one for a slight current.
(For the remote switch, use non-voltage contact for microcurrent (not more than 1mA DC12v))
3 Be noted that the capacity of contact is AC220~240V, 0.5A (Total of caution output, warning output)
4 Be noted that the capacity of contact is AC220~240V, 0.5A (Operating output)
5 How to use BS1~5 and DS1 and DS2 switch. Refer to “sevice precaution” label on EL. Compo. Box cover.
6 When operating, don’t shortcircuit the protection device (S1PH).
7 RY1 point contact is open before turning on power supply.
Refer to technical guide for the operation timing diagram.

9 Wiring diagram

9 - 1 Wiring diagram

LRLEQ15AY1(E), LRLEQ20AY1(E)
LRMEQ15AY1(E), LRMEQ20AY1(E)



A1P	Printed circuit board (Main)	K3R	Magnetic relay (Caution output)	S1NPL	Pressure sensor (Low)
A2P	Printed circuit board (Noise filter)	K4R	Magnetic relay (Y2S)	S1PH~3PH	Pressure switch (High)
A3P	Printed circuit board (INV)	K5R	Magnetic relay (Y3S)	S1S	Operation switch (Remote / Off / On)
A4P, A8P	Printed circuit board (Fan)	K6R	Magnetic relay (Warning output)	T1A	Current sensor (A6P)
A5P	Printed circuit board (ABC I/P)	K10R	Magnetic relay (Operating output)	T2A	Current sensor (A9P)
A6P, A7P	Printed circuit board (Current sensor)	K11R	Magnetic relay (Y5S)	V1CP	Safety devices input
A9P	Printed circuit board (Earth leakage detector)	L1R	Reactor (A3P)	V1R	Power module (A3P, A4P)
BS1~5	Push button switch (Mode, set, return, test, reset)	M1C~3C	Motor (Compressor)	V2R	Diode bridge (A3P)
		M1F, M2F	Motor (Fan)	X1A~4A	Connector (M1F)
C1	Capacitor	PS	Switching power supply (A1P, A3P)	X105A	Connector (S3PH)
C63, C66	Capacitor (A3P)	Q1RP	Phase reversal detect circuit	X1M	Terminal strip (Power supply)
DS1, DS2	Dip switch (A1P)	R10	Resistor (Current sensor) (A4P)	X1M	Terminal strip (Operation) (A5P)
F1U	Fuse (8A, DC650V) (A4P)	R50, R59	Resistor (A3P)	X2M	Terminal strip
F1U, F2U	Fuse (T, 3.15A, 250V) (A1P)	R95	Resistor (Current limiting)	X3M	Terminal strip (Remote switch)
F3U, F4U	Fuse (T, 1.0A, 250V)	R1T	Thermistor (Air) (A1P)	Y1E	Electronic expansion valve (Main)
F400U	Fuse (T, 6.3A, 250V) (A2P)	R1T	Thermistor (Fin) A3P)	Y2E	Electronic expansion valve (Gas)
H1P~8P	Pilotlamp (Service monitor - Orange [H2P] Malfunction detection --- Light up	R2T	Thermistor (Suction)	Y3E	Electronic expansion valve (M1C)
		R31~33T	Thermistor (M1C, M2C discharge)	Y2S	Solenoid valve (5m2C)
HAP	Pilot lamp (service monitor-green)	R3T	Thermistor (Heat exc. deicer)	Y3S	Solenoid valve (4 way valve)
K1R, K3R	Magnetic relay	R5T	Thermistor (Heat ex. of subcool outlet)	Y5S	Solenoid valve (M3C)
K2M, K4M	Magnetic contactor (M1C)	R6T	Thermistor (Heat ex. of subcool inlet)	Z1C~10C	Noise filter (Ferrite core)
K2M, K3M	Magnetic contactor (M2C)	RY1	Magnetic relay (A9P)	Z1F	Noise filter (With surge absorber) (A2P)
K1R,K2R	Magnetic relay (K2M)	S1NPH	Pressure sensor (High)		

: Terminal strip
: Connector
: Terminal
: Field wiring
: Protective earth (screw)

Colors: RED: Red
BLK: Black
WHT: White
BLU: Blue
GRN: Green

3D063035-1B

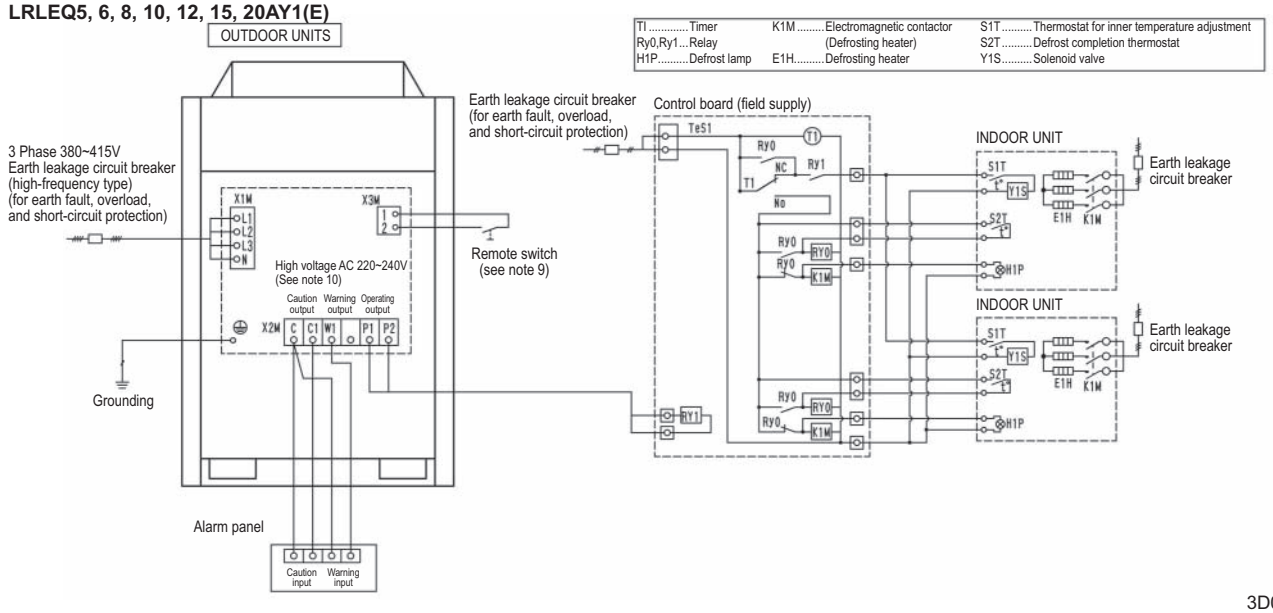
NOTES

1 This wiring diagram is applied only to the outdoor unit.
2 At the thime of factory shipment, setting of “off”. When operating, setting “on” or “remote”.
The point of contact of the input must use one for a slight current.
(For the remote switch, use non-voltage contact for microcurrent (not more than 1mA DC12v))
3 Be noted that the capacity of contact is AC220~240V, 0.5A (Total of caution output, warning output)
4 Be noted that the capacity of contact is AC220~240V, 0.5A (Operating output)
5 How to use BS1~5 and DS1 and DS2 switch. Refer to “sevice precaution” label on EL. Compo. Box cover.
6 When operating, don’t shortcircuit the protection device (S1PH~S3PH).
7 RY1 point contact is open before turning on power supply.
Refer to technical guide for the operation timing diagram.

9 Wiring diagram

9 - 2 External connection diagram

LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5, 6, 8, 10, 12, 15, 20AY1(E)



3D065037

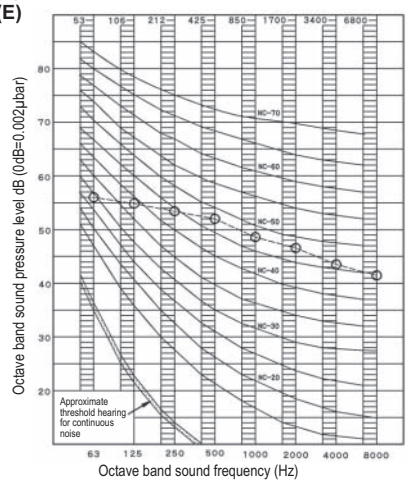
NOTES

1. All wiring, components and materials to be procured on the site must comply with the applicable local and national codes.
2. Use copper conductors only.
3. As for details, see wiring diagram.
4. Install circuit breaker for safety.
5. All field wiring and components must be provided by licensed electrician.
6. Unit shall be grounded in compliance with the applicable local and national codes.
7. Wiring shown are general points-of-connection guides only and are not intended for or to include all details for a specific installation.
8. If there exists the possibility of reversed phase, lose phase, momentary blackout or the power goes on and off while the product is operating, attach a reversed phase protection circuit locally. Running the product in reversed phase may break the compressor and other parts.
9. In case of used remote switch, use non-voltage contact for microcurrent (not more than 1mA, 12V DC).
10. Total capacity for caution, warning: 0.5A or less at AC 220 to 240V.
    Capacity for operation output: 0.5A or less at AC 220 to 240V.

10 Sound data

10 - 1 Sound pressure spectrum

LRMEQ5AY1(E)
LRLEQ5AY1 (E)



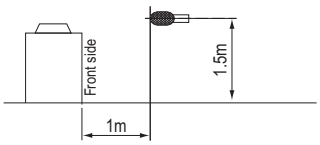
4D065019

NOTES

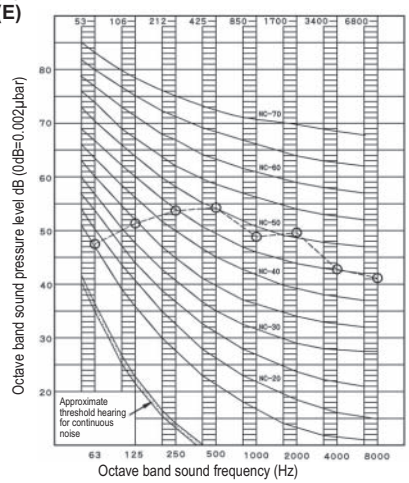
Scale	50Hz
A	55
C	60.5

1 Over All (dB):
(B,G,N is already rectified)
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



LRMEQ6AY1(E)
LRLEQ6AY1 (E)



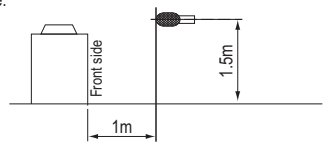
4D065021

NOTES

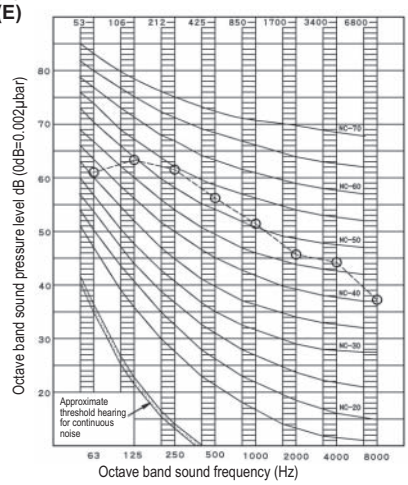
Scale	50Hz
A	56.0
C	59.5

1 Over All (dB):
(B,G,N is already rectified)
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



LRMEQ8AY1(E)
LRLEQ8AY1 (E)



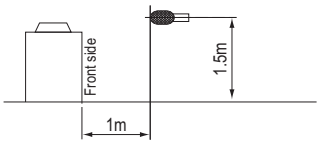
4D065022

NOTES

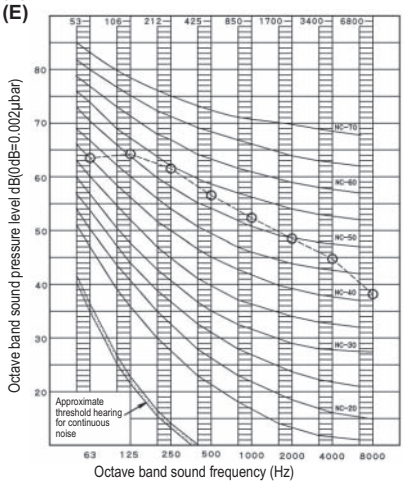
Scale	50Hz
A	57.0
C	67.0

1 Over All (dB):
(B,G,N is already rectified)
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



LRMEQ10AY1(E)
LRLEQ10AY1 (E)



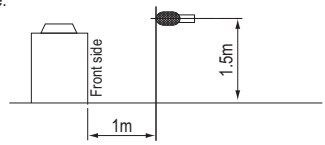
4D065023

NOTES

Scale	50Hz
A	59.0
C	68.5

1 Over All (dB):
(B,G,N is already rectified)
2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

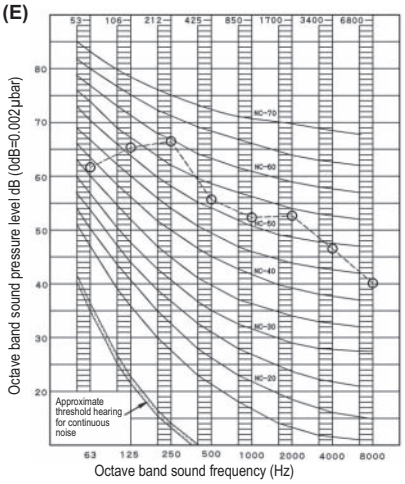
3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



10 Sound data

10 - 1 Sound pressure spectrum

LRMEQ12AY1(E)
LRLEQ12AY1 (E)


53 106 212 425 850 1700 3400 6800
80 70 60 50 40 30 20
NC-70 NC-60 NC-50 NC-40 NC-30 NC-20
Approximate threshold hearing for continuous noise
63 125 250 500 1000 2000 4000 8000
Octave band sound pressure level dB (0dB=0.002µbar)
Octave band sound frequency (Hz)

4D065024

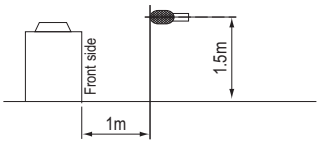
NOTES

1 Over All (dB):
(B,G,N is already rectified)

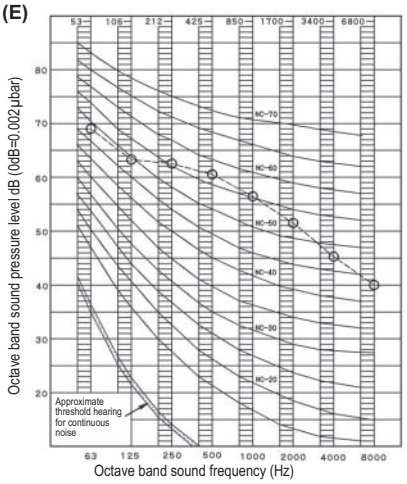
Scale	50Hz
A	61.0
C	69.5

2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



LRMEQ15AY1(E)
LRLEQ15AY1 (E)


53 106 212 425 850 1700 3400 6800
80 70 60 50 40 30 20
NC-70 NC-60 NC-50 NC-40 NC-30 NC-20
Approximate threshold hearing for continuous noise
63 125 250 500 1000 2000 4000 8000
Octave band sound pressure level dB (0dB=0.002µbar)
Octave band sound frequency (Hz)

4D065025

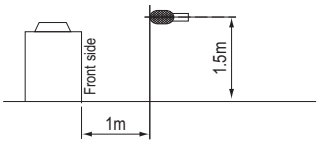
NOTES

1 Over All (dB):
(B,G,N is already rectified)

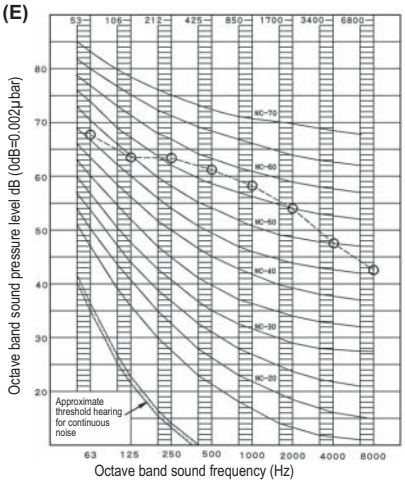
Scale	50Hz
A	62.0
C	71.0

2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



LRMEQ20AY1(E)
LRLEQ20AY1 (E)


53 106 212 425 850 1700 3400 6800
80 70 60 50 40 30 20
NC-70 NC-60 NC-50 NC-40 NC-30 NC-20
Approximate threshold hearing for continuous noise
63 125 250 500 1000 2000 4000 8000
Octave band sound pressure level dB (0dB=0.002µbar)
Octave band sound frequency (Hz)

4D065020

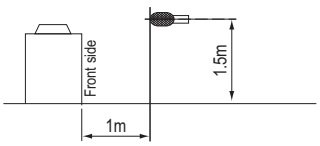
NOTES

1 Over All (dB):
(B,G,N is already rectified)

Scale	50Hz
A	63.0
C	70.5

2 Operating conditions:
- Power source: Y1: 380-415V 50Hz
- JIS standard

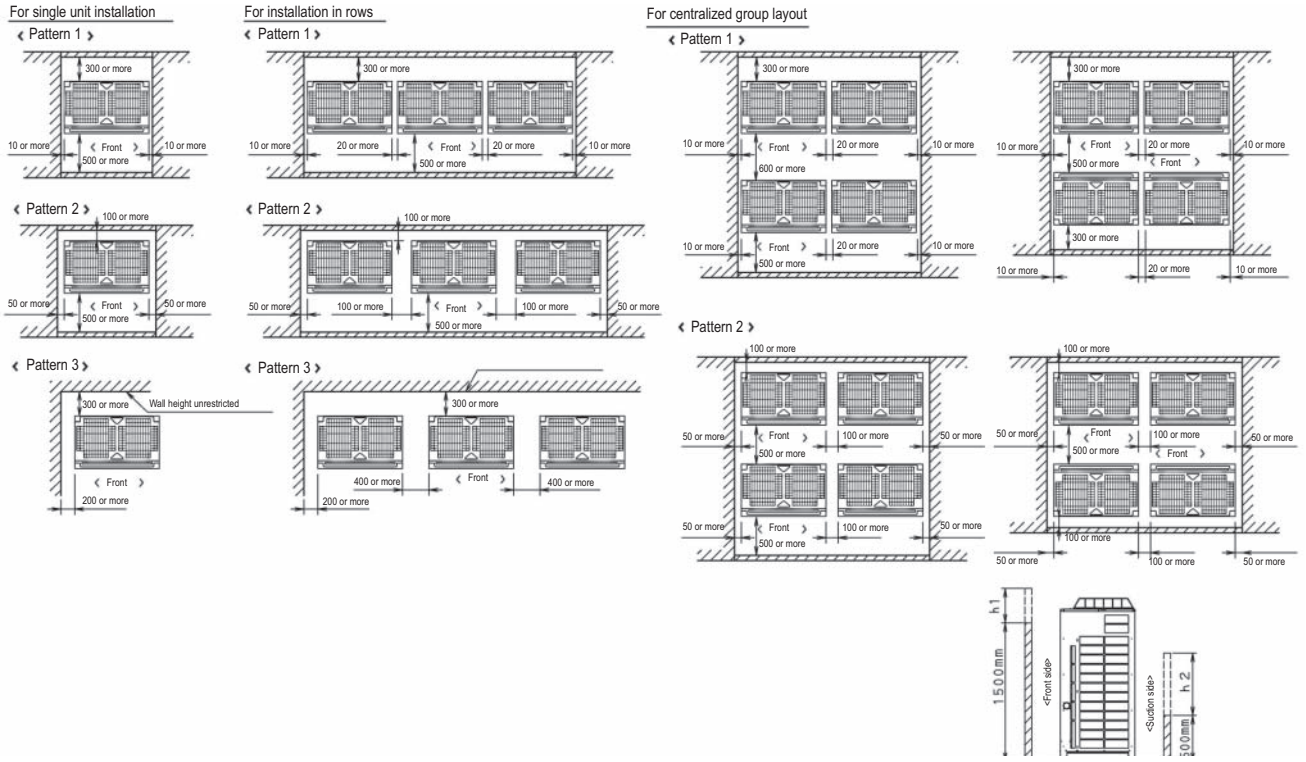
3 Measuring place: Anechoic chamber (conversion value).
4 The operating sound is measured in anechoic chamber, if it is measured under the actual installation conditions, it is normally over the set value due to environmental noise and sound reflection.
5 Location of microphone.



11 Installation

11 - 1 Installation method

LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5,6,8,10,12,15,20AY1(E)



3D065029

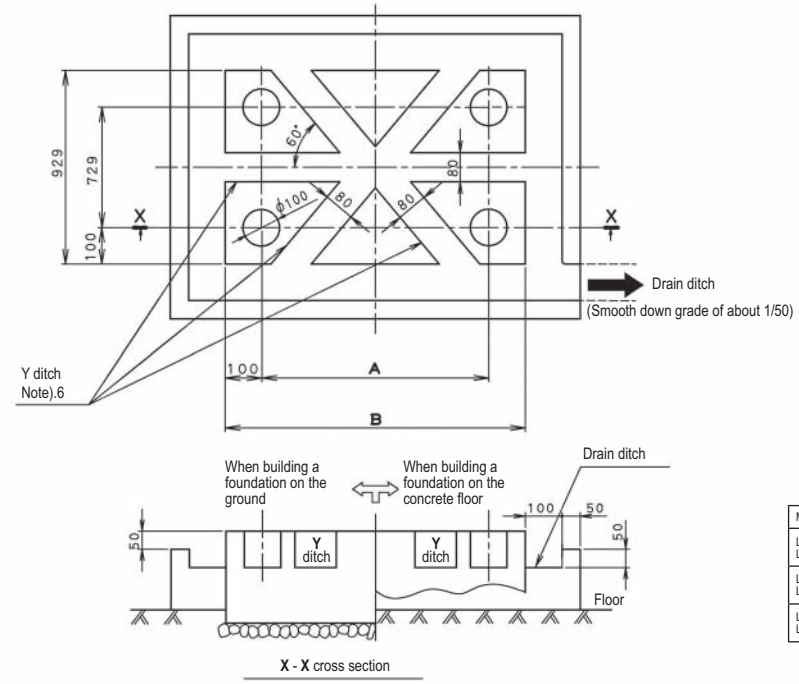
NOTES

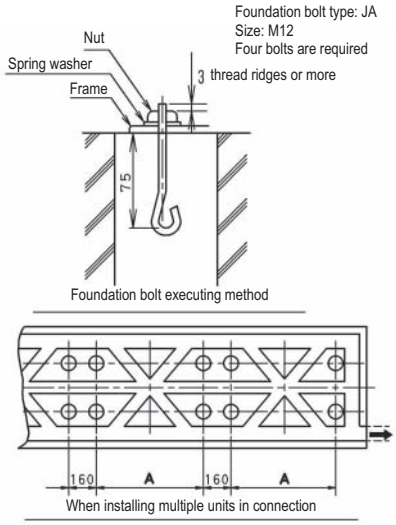
1. Heights of walls in case of Patterns 1 and 2.
   Front: 1500mm
   Suction side: 500mm
   Sides: Height unrestricted.
   Installation space to be shown in this drawing is based on the cooling operation at 32 degrees outdoor air temperature. When the design outdoor air temperature exceeds 32 degrees or the load exceeds maximum ability because of much generation load of heat in all outdoor unit, take the suction side space more broadly than the space to be shown in this drawing.
2. If the above wall heights are exceeded then h2/2 and h1/2 should be added to the front and suction side service spaces respectively as shown in the figure on the right.
   h1=A (Actual height)-1500
   h2=B(Actual height)-500
   X=500+h1/2 or over
   Y=300+h2/2 or over
   (Y=100+h2/2 or over)
   [Values in parentheses are for pattern 2]
3. When installing the units most appropriate pattern should be selected from those shown above in order to obtain the best fit in the space available always bearing in mind the need to leave enough space for a person to pass between units and wall and for the air to circulate freely.
   (If more units are to be installed than are catered for in the above patterns your layout should take account of the possibility of short circuits.)
4. The units should be installed to leave sufficient space at the front for the on site refrigerant piping work to be carried out comfortably.

11 Installation

11 - 2 Fixation and foundation of units

LRMEQ5,6,8,10,12,15,20AY1(E)
LRLEQ5,6,8,10,12,15,20AY1(E)





Model	A	B
LRMEQ5AY1(E), LRMEQ6AY1(E) LRLEQ5AY1(E), LRLEQ6AY1(E)	497	697
LRMEQ8AY1(E), LRMEQ10AY1(E), LRMEQ12AY1(E) LRLEQ8AY1(E), LRLEQ10AY1(E), LRLEQ12AY1(E)	792	992
LRMEQ15AY1(E), LRMEQ20AY1(E) LRLEQ15AY1(E), LRLEQ20AY1(E)	1102	1302

3D065348

NOTES

1. The proportions of cement: sand: gravel for the concrete shall be 1:2:4 and the reinforcement bars that their diameter are 10 mm (approx. 300mm intervals) shall be placed.
2. The surface shall be finished with mortar. The corner edges shall be chamfered.
3. When the foundation is built on a concrete floor, rubble is not necessary. However, the surface of the section on which the foundation is built shall have rough finish.
4. A drain ditch shal be made around the foundation to thoroughly drain water from the equipment installation area.
5. When istalling the equipment on a roof, the floor strength shall be checked, and water-proofing measures shall be taken.
6. Y ditch is not necessary for the following model.
   LRMEQ5AY1(E), LRMEQ6AY1(E), LRLEQ5AY1(E), LRLEQ6AY1(E)

12 Operation range

LRLEQ5,6,8,10,12,15,20AY1

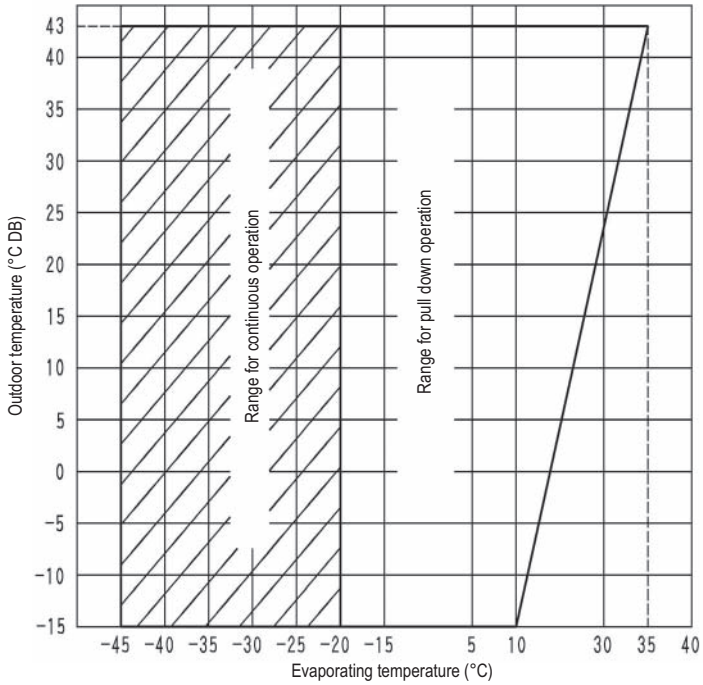
ITEM		STANDARD FOR USE
Power supply	Voltage fluctuation	Within ± 10% of rated voltage
	Unbalanced load	Within ± 2% of rated voltage
	Frequency fluctuation	Within ± 2% of rated voltage
Outside temp. range		-15 ~ 43 °C DB *1
Evaporating temp. range		-20 ~ 10°C DB (less than RH95%) *2
Frequency ON/OFF of comp.		Less than 6 times / hour
Time at pull down		More than 3°C / hour
Maximum length of connection piping		70m
Maximum height difference between indoor unit and outdoor units		10m (case that outdoor unit is lower than indoor unit) 35m (case that outdoor unit is higher than indoor unit) *3
Maximum refrigerant charge amount		(See ADDITIONAL REFR. CHARGE LABEL about additional refrigerant)

4D064917

NOTES

1. See operation limits and performance characteristics.
2. When the outside temp. is low, it lowers more than set temp. because of the unit protection.
3. Install the oil trap per 5m from outdoor unit.

LRMEQ5,6,8,10,12,15,20AY1(E)



4D064913

NOTES

1. “Range for continuous operation” shows possible range of continuous operation.
2. “Range for pull down operation” shows possible range of short-time operation.
   - Do not select the model in the range for pull down operation.
   - To be more than 3°C/hour that the temperature of indoor unit drops, do not open the door and do not enter the goods in pull down operation as possible.

LRMEQ-AY1
LRLEQ-AY1

In all of us, a green heart

Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intension to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.

Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.

ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.

CE Daikin units comply with the European regulations that guarantee the safety of the product.

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